

ECONOMIC INDICATORS REPORT

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Summary

The purpose of this report is to provide a picture of the economic and social well-being of the United States in comparison to five other industrialized nations: China, Japan, Germany, South Korea, and Singapore. Drawing from secondary data sources, we compare micro, macro, industrial, and socio-economic data to gauge the health of the productive capabilities and the citizens within each country. Special attention is given to the manufacturing sector due to its perceived ability to offer high paying jobs and to create additional jobs in communities.

Methodology

For most indicators, data was collected for as many years as possible from a single global data source (OECD, IMF, World Bank, etc.). While local data sources typically cover more time periods, they lack the methodological consistency that makes comparisons between countries possible.

Results

Although the United States is still the world leader in total output, it trails in other important statistical categories. The United States can claim:

- The largest share of consumption in GDP (Gross Domestic Product)
- The least amount of trade as a share of GDP
- The largest trade deficits
- The highest level of adult wealth
- The most significant wealth inequality
- The highest level of health care spending (without the best outcomes).
- The largest level of military spending
- The lowest GDP share of manufacturing

This report will clarify how these results were obtained while limiting opinions as to the desirability of each finding.

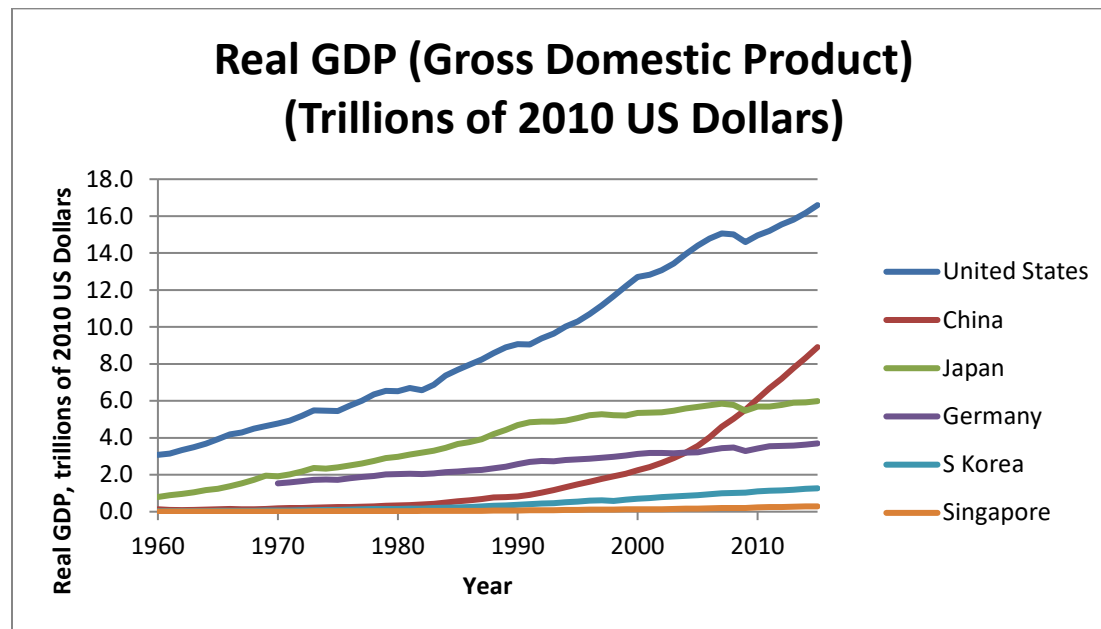
Chapter 1: National Accounts

Highlights

- On an exchange rate basis, the US produces the largest output in the world.
- Singapore has passed the US in per capita output.
- The US has the largest consumption share of GDP.
- The US has the smallest trade level of the six nations.
- Yearly US trade deficits in manufactured goods since 1976 total \$16.3 trillion.

Output and Growth

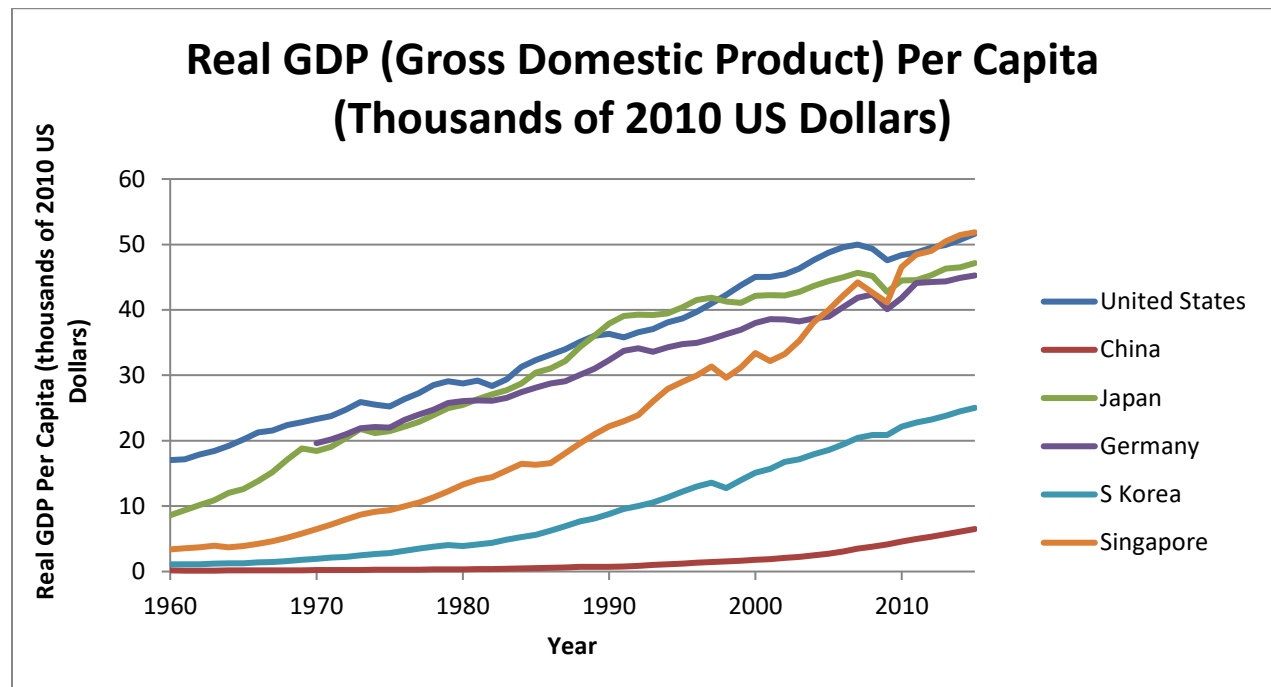
Figure 1



Source: World Development Indicators, World Bank

The United States is still the world leader in output as measured by Gross Domestic Product (Figure 1). In 2015, GDP measured \$16.6 trillion USD, compared to \$8.9 trillion from its next closest rival, China. In fact, when comparing based on purchasing power (Chapter 3), China has passed the United States in GDP. If trends continue in their current form, one would expect China to pass the United States in all measures of GDP in the not too distant future.

Figure 2



Source: World Development Indicators, World Bank

On a per person basis (Figure 2), while the United States is still a world leader in productive output, other nations have caught up and passed the US in per capita GDP. For example, from 1990 to 1997 Japan exceeded the United States, and Singapore has largely passed the United States over the past several years. Outside of this study, several other countries exceed the United States in per capita GDP. These are typically oil producing countries or small nations with sound banking systems.

Consumption and Investment

As a share of GDP, the United States has the largest value of output going towards consumption (71.7%) and the second smallest amount going towards investment (20.8%), with Germany having the smallest (Table 1). In comparison, China has the largest investment level (46.8%) and Singapore has the smallest consumption level (34.0%).

Table 1: Shares of Consumption and Investment, % GDP

Nation	Consumption Share	Investment Share
United States	71.7	20.8
China	37.4	46.8
Japan	59.9	21.8
Germany	54.9	19.5
South Korea	49.5	30.4
Singapore	34.0	36.6

Source: Penn World Tables

Trade Levels and Balances

Total trade levels (Exports + Imports) vary widely amongst the nations (Table 2), with the United States having the lowest level of trade (28%) and Singapore having the highest level of trade (326%). Singapore can have a trade level greater than 100% due to intermediate financial transactions that register as imports or exports, but never register as a final produced good.

Table 2: Trade Levels and Balances, % GDP

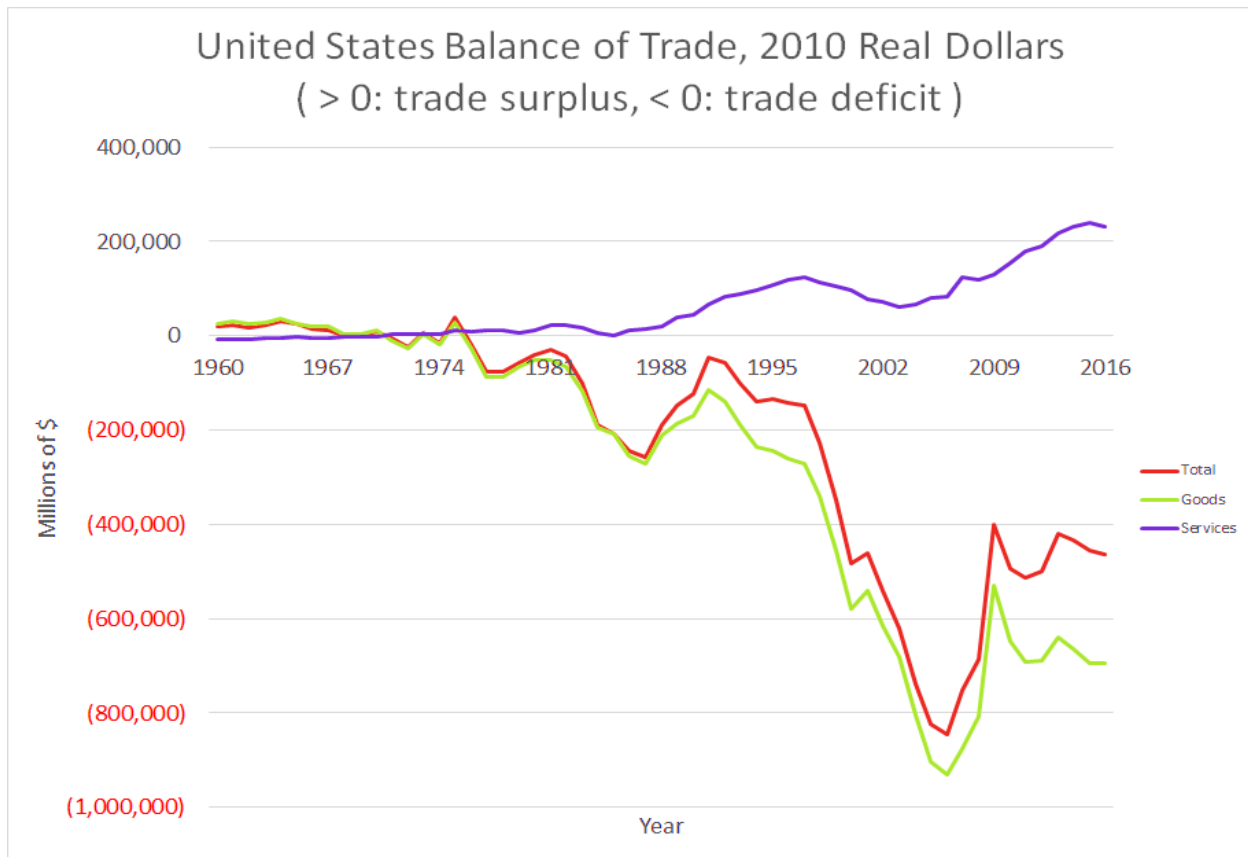
Nation	Trade Levels (Exports+Imports)	Net Exports (Exports-Imports)
United States	28	-2.9
China	40	3.5
Japan	36	-0.3
Germany	86	7.6
South Korea	85	7.0
Singapore	326	26.9

Source: World Development Indicators, World Bank

Table 2 also demonstrates that Singapore has the largest trade balance (26.9%) while the United States has the largest trade deficit (-2.9%). This is indicative of United States trade balances over the years, which have registered deficits every year from 1976 to 2016 (Figure 3). The total sum of these deficits amounts to

\$12.8 trillion (2010 USD), with the bulk of it being accumulated since 1985 (\$12.1 trillion).

Figure 3



Sources: Census Bureau (Balance of Payments) and Bureau of Labor Statistics (Producer Price Index).

Large United States trade deficits can be attributed to deficits in manufactured products. From 1976 – 2016, deficits in manufactured goods have totaled \$16.3 trillion (2010 USD), with the bulk of the deficit occurring since 1985 (\$15.5 trillion). Since 1985, our largest deficits in manufactured goods have been with China (\$4.6 trillion) and Japan (\$2.5 trillion).

Chapter 2: Financial Indicators

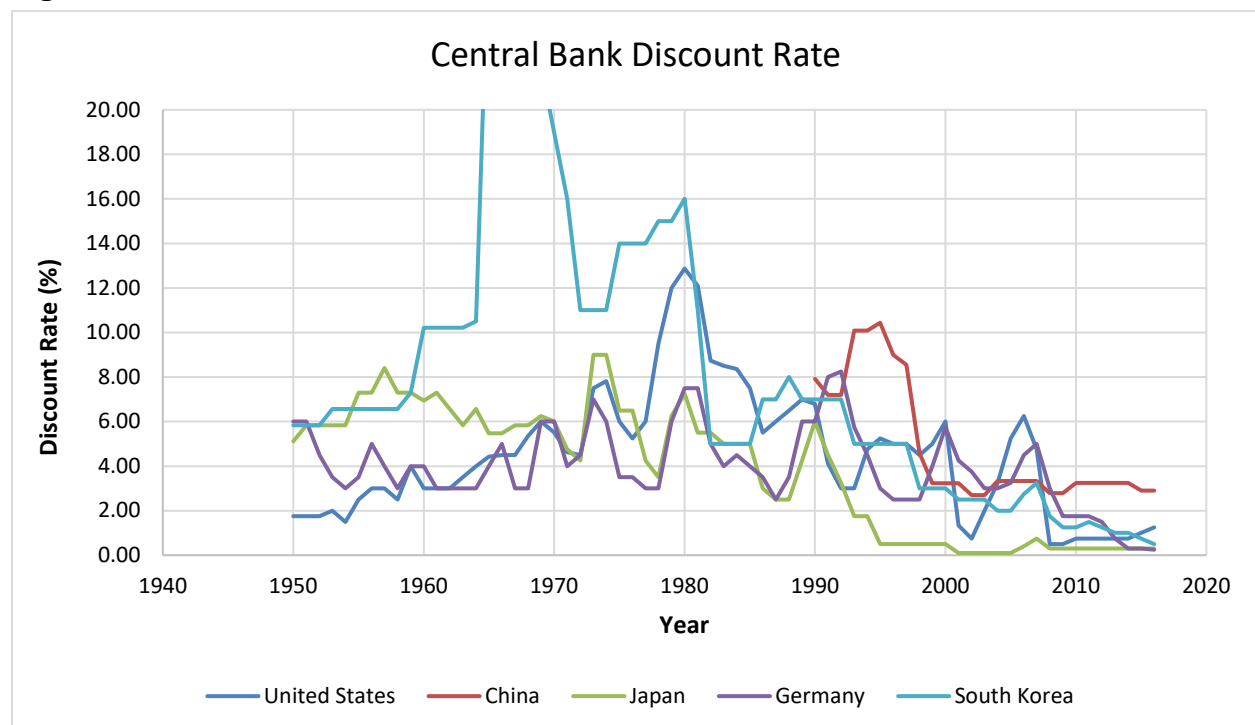
Highlights

- All central banks have practiced monetary easing in some form since 2008.
- China has seen the largest increase in their balance sheet since 2000.
- Japan has consistently had the lowest discount rate.
- Since WWII, the currencies of Japan, Germany, and Singapore have strengthened against the US dollar.

Central Bank Policy

Monetary policy has been extremely accommodating around the world as of late, with central banks lowering their lending rates and practicing quantitative easing frequently since the financial crisis. This is in stark contrast to the 1970's and 1980's when the Federal Reserve and other central banks increased interest rates severely, often to fight inflation (Figure 4).

Figure 4

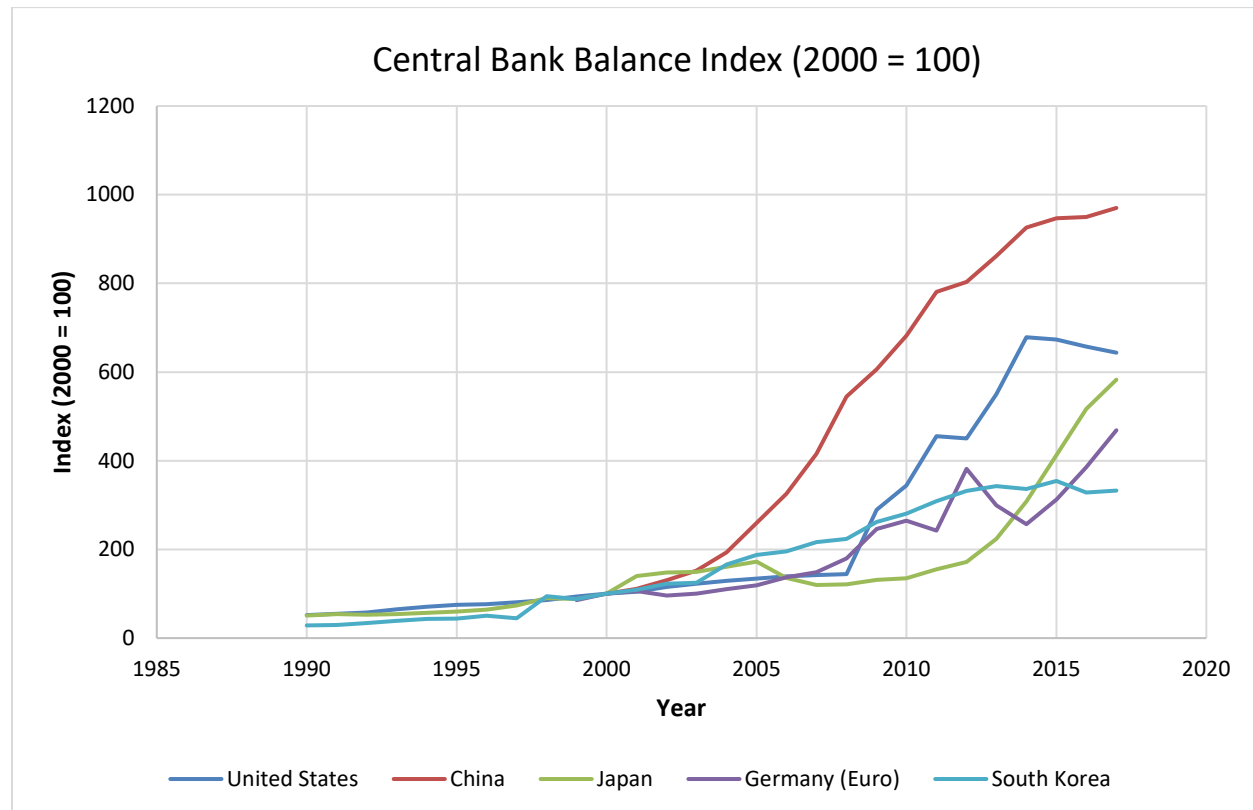


Source: International Financial Statistics (IFS), International Monetary Fund (IMF)

The Monetary Authority of Singapore, established in 1971, does not use discount rates to conduct monetary policy. They rather influence policy through foreign exchange mechanisms that affect exchange rates with their most significant trading partners.

Of the remaining countries in this study, China has maintained the highest discount rate since the 2008 financial crisis at roughly 3%. Over that same period, the United States has maintained a rate of less than 1%, only peeking above 1% since 2015 as it begins to practice more austerity. Conversely, Germany and South Korea held rates above 1% until the last several years, with rates now heading lower. Japan has held rates below 1% for the last 20 years.

Figure 5

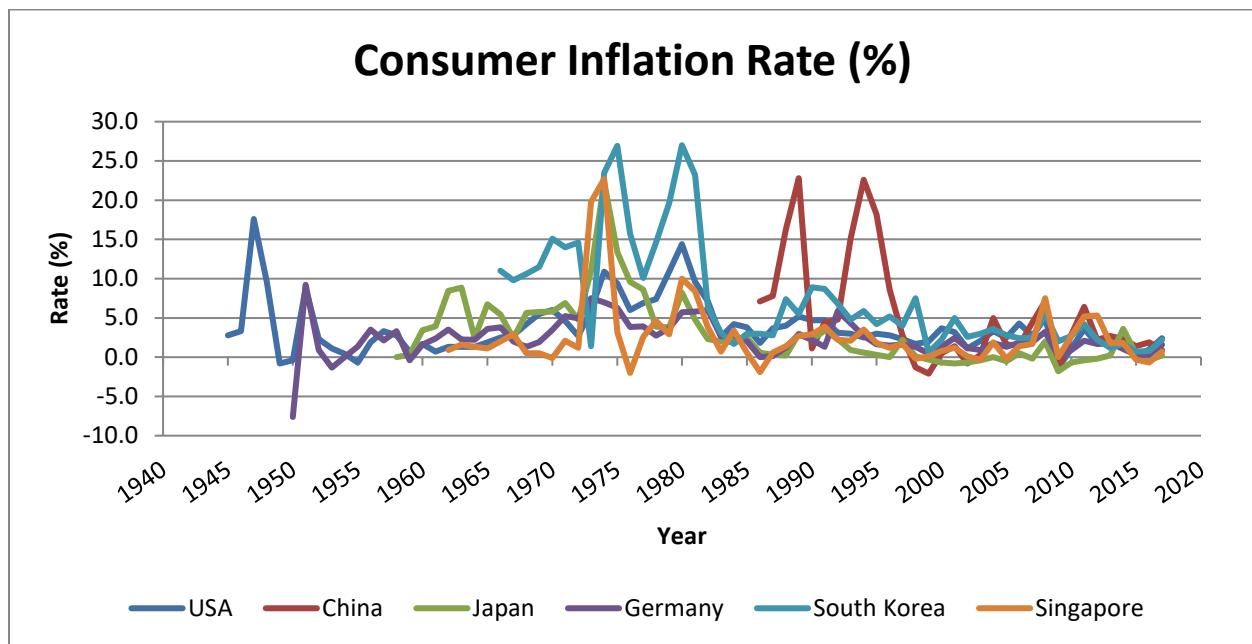


Sources: United States - Federal Reserve, China – People’s Bank of China, Japan – Bank of Japan, Germany (Euro) – European Central Bank, South Korea – The Bank of Korea
Notes: The monetary base is used as a proxy for the United States.

To gauge the amount of quantitative easing (QE) since 2000, the balance sheets of the central banks are compared (Figure 5). China has increased their balance

sheet the most (850%) with the United States in a distant, yet still aggressive, second (557%). While the United States saw the biggest increase in QA immediately after the financial crisis of 2008, Japan and Germany appear most active today in QA activities.

Figure 6



Sources: US Bureau of Labor Statistics; National Bureau of Statistics of China; Ministry of Internal Affairs & Communications, Japan; Federal Statistics Office, Germany; Statistics Korea; Statistics Singapore

With such low discount rates and such high levels of monetary easing, one would expect high inflation levels to be prevalent across the globe. This has not occurred (Figure 6). The highest inflation rates were measured in the United States (2.4%) and South Korea (2.2%) with other countries experiencing less than 2% inflation. Japan has seen their economy fluctuate between inflation and deflation over the past 20 years.

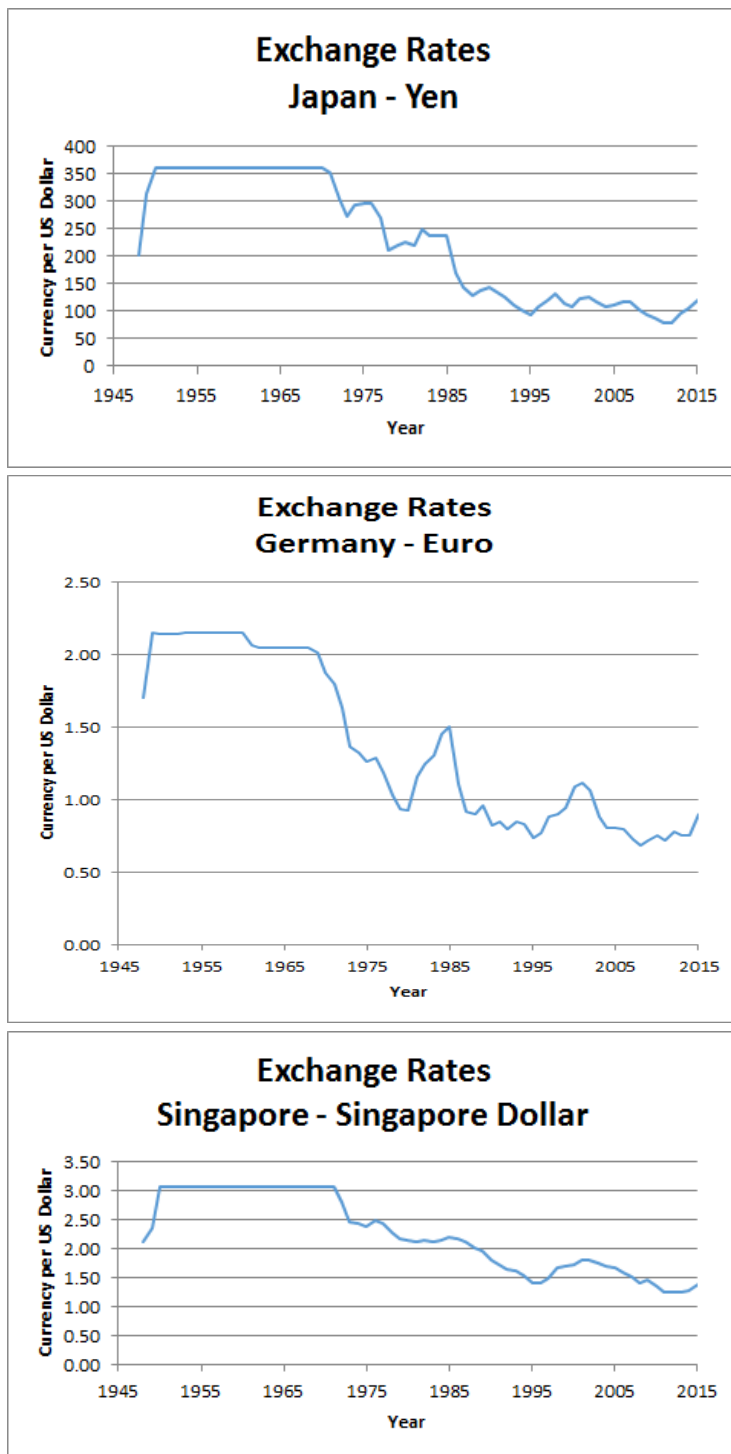
Government Borrowing Rate (10 year)

The two nations currently practicing aggressive quantitative easing, Japan and Germany, also have the lowest government bond yields at 0.0% and 0.3% respectively. China holds the largest 10-year bond yield at 3.5%, with the United States, South Korea, and Singapore all hovering slightly above 2% early this year. All nations have seen their bond yields shrink dramatically since the 1970's and 1980's.

Exchange Rates

While several currencies have been depreciating against the US Dollar since 2014, this is not indicative of their long-term trends (Figure 7). Since WWII, the currencies of Japan, Germany, and Singapore have all appreciated compared to the United States dollar, with most of the appreciation occurring after the elimination of a gold backing.

Figure 7



Source: Penn World Tables

Chapter 3: Economic Indicators

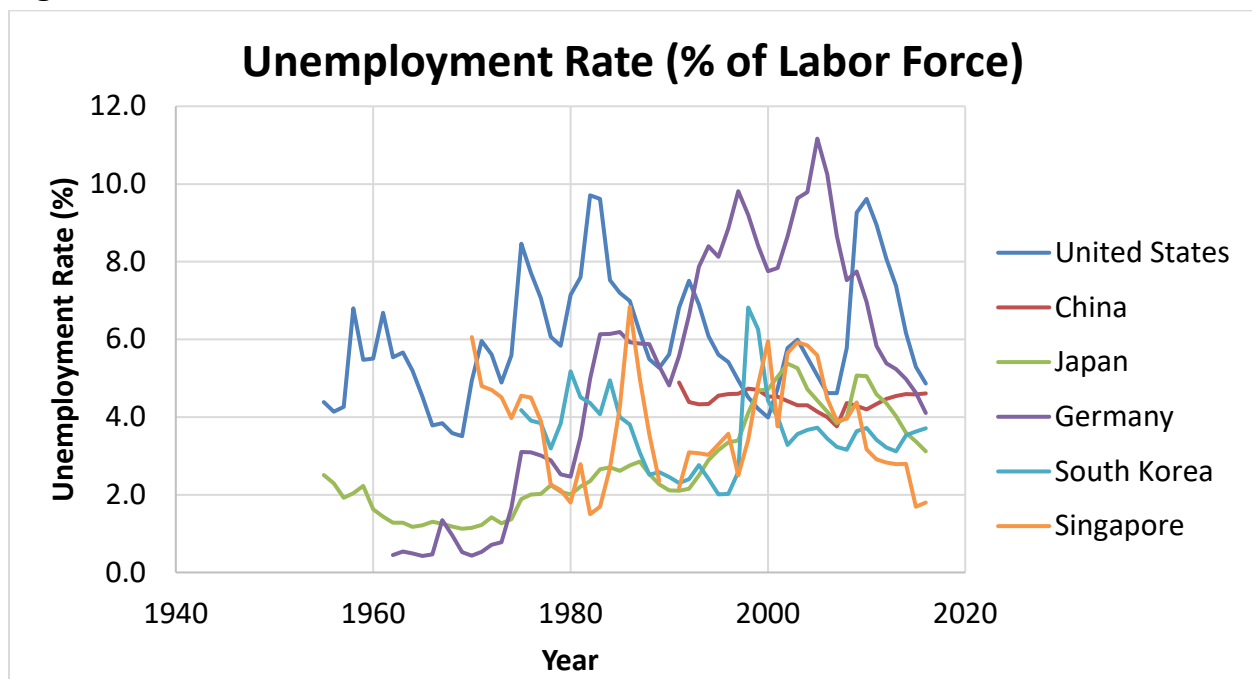
Highlights

- Unemployment rates are higher in Germany and the US than in Asian countries.
- Singapore has passed the US as the top per capita income earner.
- Non-supervisory workers are leaving high paying manufacturing jobs in the US.
- The US is highest in wealth and lowest in wealth equality.
- The US has one of the highest household debt levels as a percentage of GDP.

Unemployment and the Labor Force

After the financial crisis in the United States, unemployment has finally fallen back to what many economists believe to be its natural rate of 5% or less (4.9%). Even at this level, the United States has the highest unemployment rate amongst the countries of comparison since the financial crisis. In fact, Figure 8 indicates that the United States and Germany have historically higher unemployment rates than their Asian counterparts.

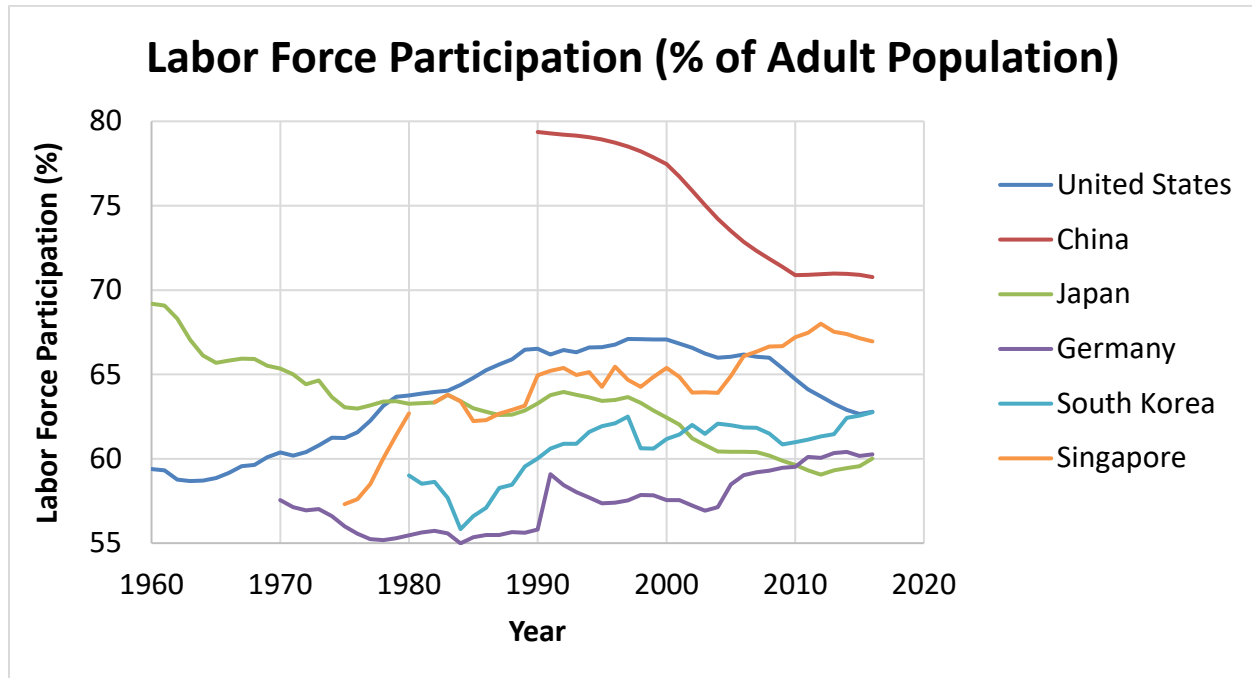
Figure 8



Sources: OECD and World Development Index, World Bank

In addition to suffering higher unemployment on average, the United States has seen a decrease in labor force participation since 2000, dropping from 67% to 62% (Figure 9). If the decrease represents discouraged or marginalized workers who have dropped from the labor force but would rather be employed, then the jobless situation is worse than is represented by unemployment statistics.

Figure 9



Sources: OECD and World Development Index, World Bank

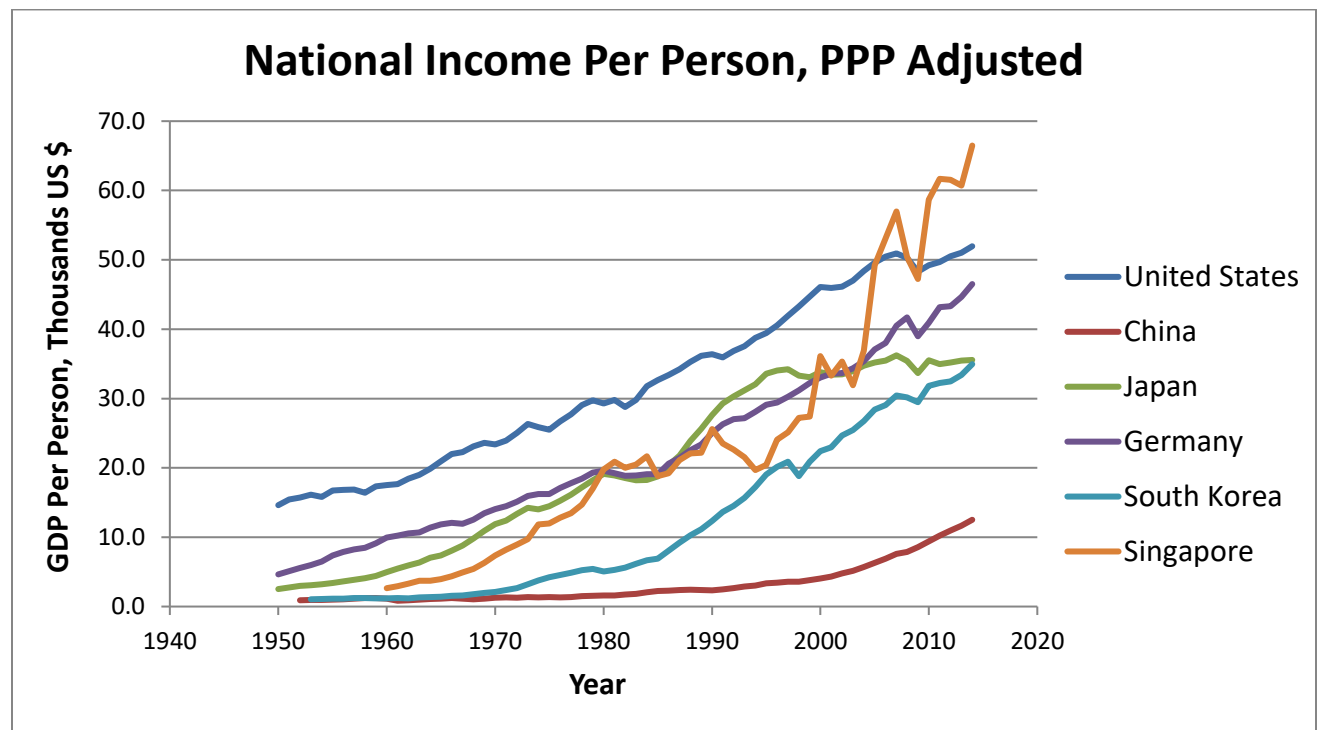
For 25 years (1980 – 2005), the United States showed higher labor force participation than all other countries except China. This could be a positive if it indicates that there are ample jobs available, or a negative that reflects a scarcity of leisure time. Either way, the trend of decreasing labor force participation is not being copied in Germany, Singapore, or South Korea.

Income and Income Inequality

National income (GDP) that has been adjusted for differences in purchasing power between countries can be used as a measure of average income (Figure 10). By this measure, the United States is no longer the leader in average income

(\$52 thousand USD). That distinction belongs to Singapore (\$66.5 thousand USD). While the United States has one of the highest average incomes in the world, Figure 10 shows that other countries are catching up (Germany, South Korea, China).

Figure 10

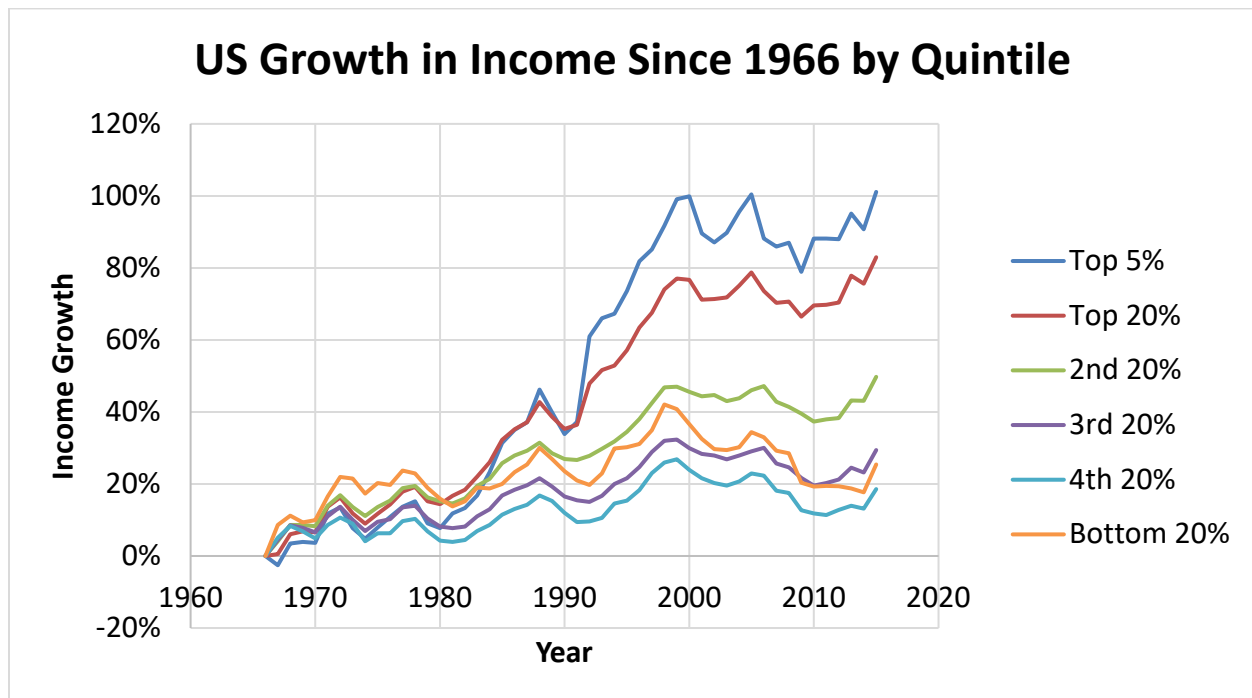


Source: Penn World Tables

Income inequality in the US has increased significantly over the past 50 years (Figure 11). From 1967 to 2015, the bottom 20% of income earners have seen a 25% increase in income. This entire increase occurred before 1994 as incomes for this group have been stagnant ever since. The next 20% are even worse off, with their incomes growing by 19%, and less access to social programs than the bottom group due to earnings limitations.

In contrast, the top 20% of income earners have experienced an 83% increase in revenues, with the top 5% experiencing a 101% increase since 1967.

Figure 11



Source: Census Bureau

Non-supervisory Employees

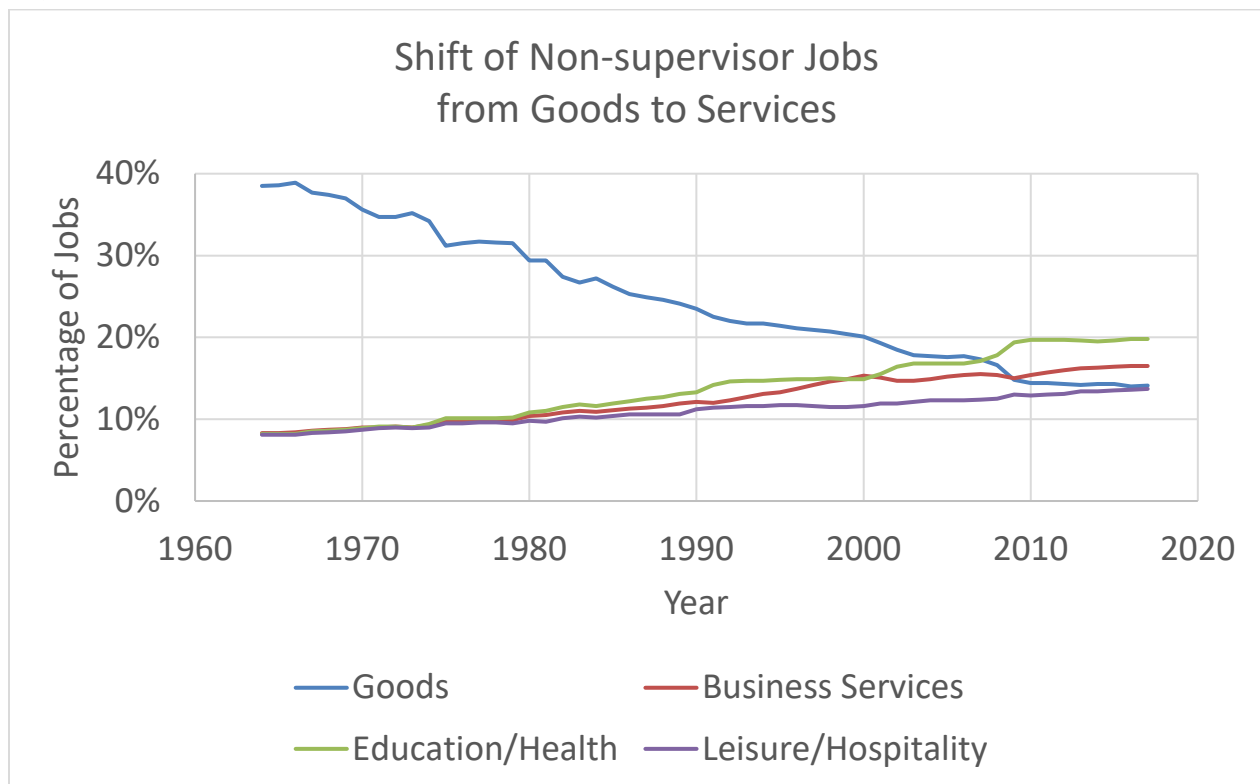
Table 3: Non-supervisory Employees (Wages in Real 2017 Dollars)

Year	1964	2017
% Jobs in Goods	39%	14%
% Jobs in Services	62%	86%
Weekly Wages in Goods	\$777	\$944
Weekly Wages in Services	\$720	\$699

Source: Bureau of Labor Statistics, Current Employment Survey

Another way to investigate the economic condition of the typical worker is by studying employment and wage trends of non-supervisory employees. According to the Current Employment Survey (CES) of the Bureau of Labor Statistics (BLS), the percentage of non-supervisory jobs in goods production (manufacturing and construction) has decreased from 39% to 14%, with service sector jobs increasing from 62% to 86%. Additionally, real wages (after correcting for inflation) have decreased on average in service sectors while they have increased in goods sectors (Table 3).

Figure 12

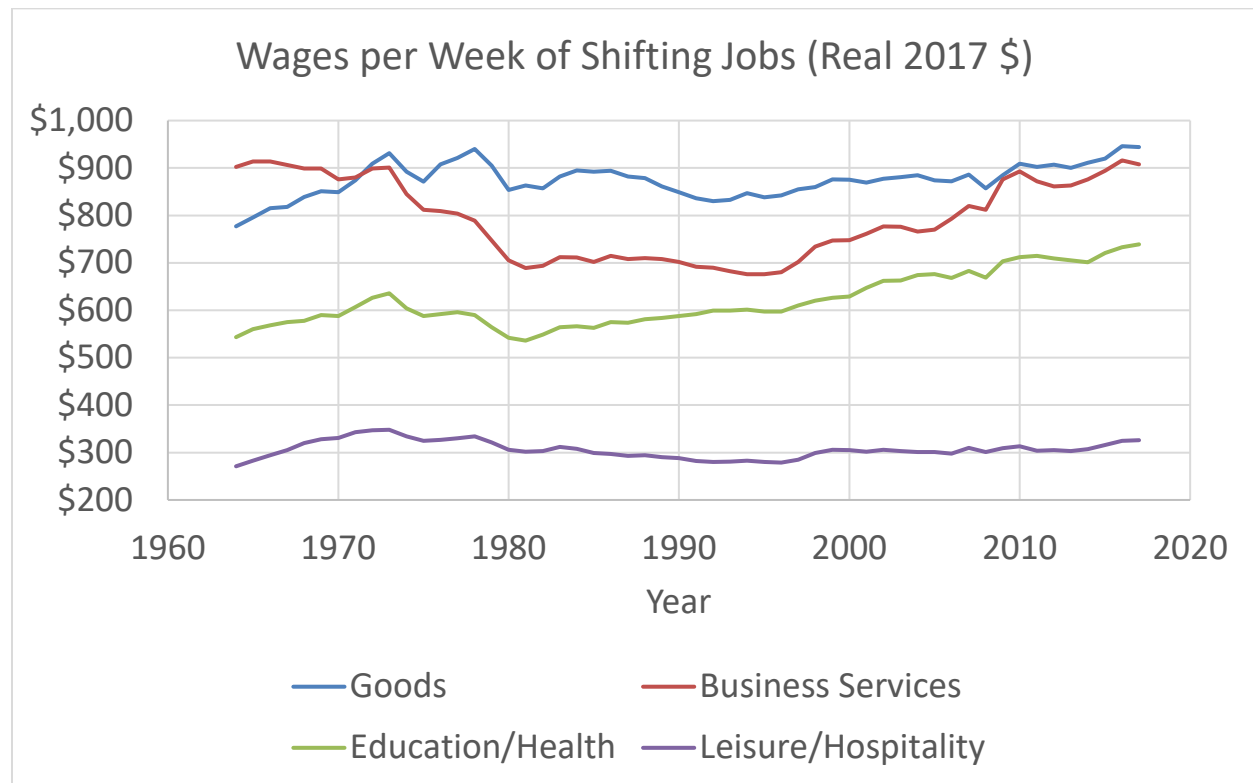


Source: Bureau of Labor Statistics, Current Employment Survey

As demonstrated in Figure 12, the main service sectors that see an increase in percentage of jobs from 1964 to 2017 are business services (8% to 17%), education/health (8% to 20%), and leisure and hospitality (8% to 14%). In all

three cases, the wages of the sectors replacing the loss of manufacturing jobs have lower wages than the jobs that they replace, and sometimes considerably lower as in the case of leisure and hospitality.

Figure 13



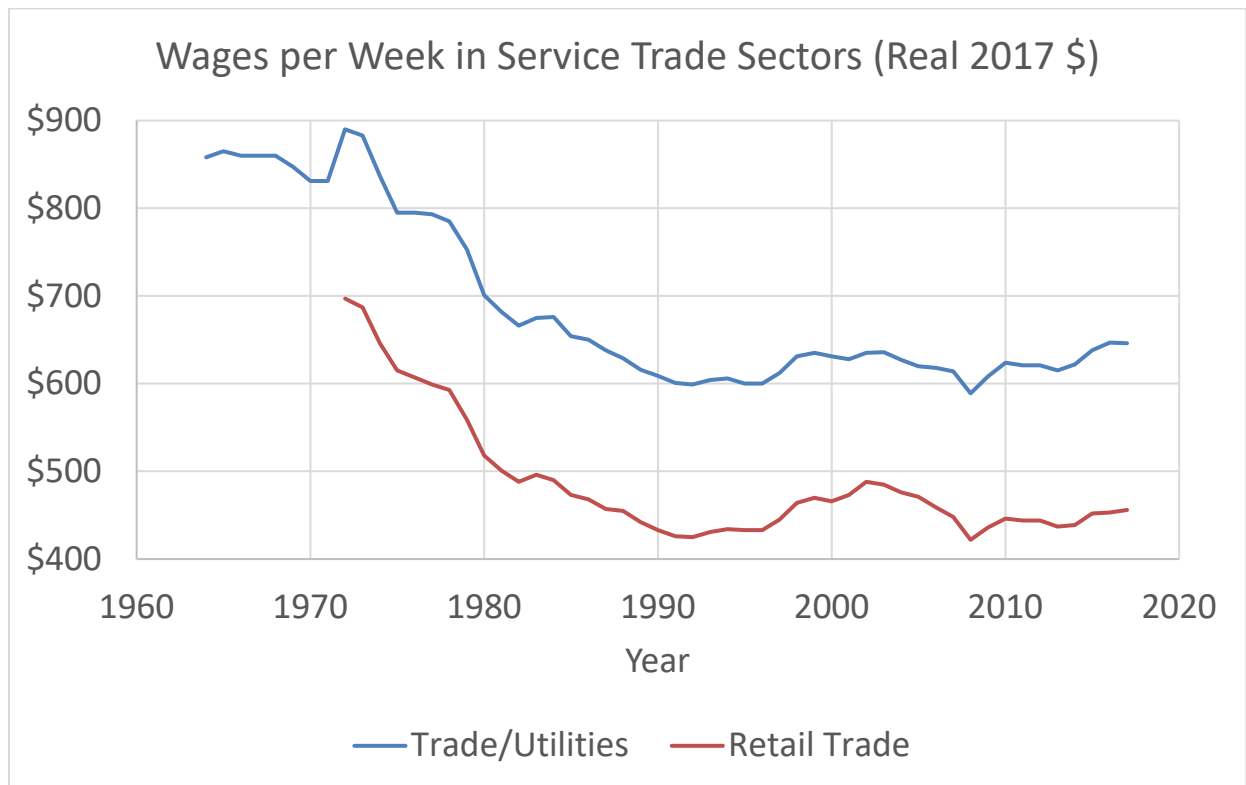
Source: Bureau of Labor Statistics, Current Employment Survey

In 2017, the average wage for goods production is \$944 / week (Figure 13). The average wages for the jobs replacing goods production are \$908 / week for business services, \$739 / week for education & health, and \$326 / week for leisure and hospitality. The loss of higher paying manufacturing and construction jobs are predominantly moving into these three lower paying sectors.

One group of sectors placing significant downward pressure on service wages are the trade sectors, and particularly, the retail trade sector (Figure 14). In 2017, trade and utilities accounted for 23% of all non-supervisory jobs, with 13% being

attributed to retail trade. From 1964 to 2017, average weekly wages for the trade sectors dropped from \$858 to \$646, with retail trade wages dropping from \$697 to \$456 since 1972.

Figure 14

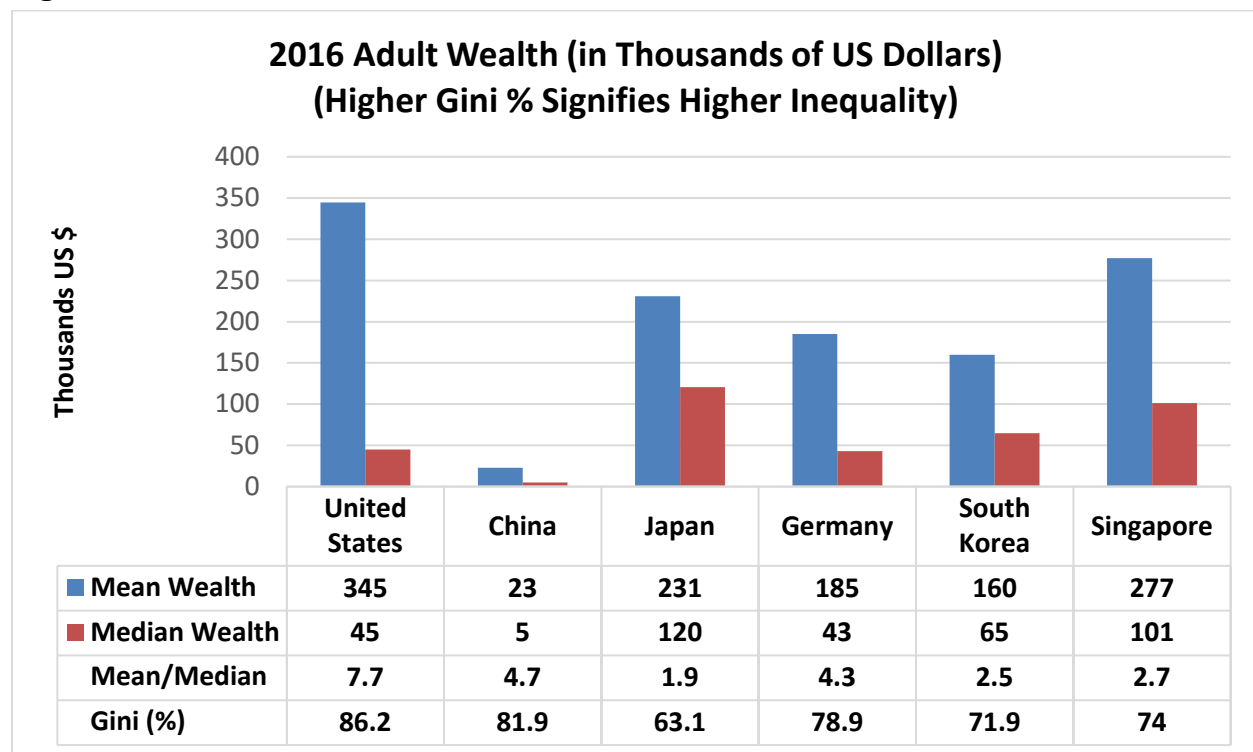


Source: Bureau of Labor Statistics, Current Employment Survey

Wealth and Wealth Inequality

As of 2016, the United States tops the comparison group with respect to average accumulated wealth per adult (\$345 thousand USD). The next highest nation is Singapore (\$277 thousand), with the lowest nation being China (\$23 thousand). Home ownership does not appear to be an indicator of wealth as China and Singapore have the highest rates of home ownership by far (90% and 91% respectively), yet reside on opposite ends of the wealth spectrum (Figure 15).

Figure 15



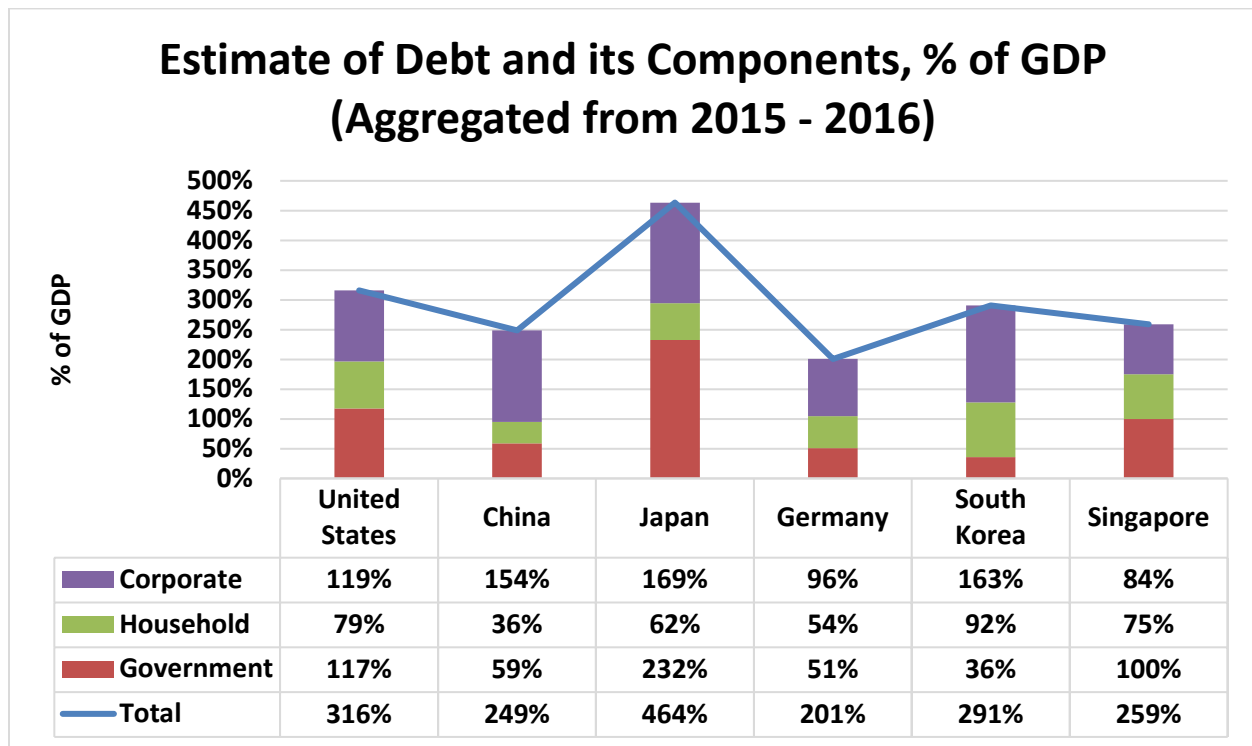
Source: Credit Suisse Global Wealth Databook 2016

While the US leads the group in accumulated wealth, it resides in last regarding how to distribute its wealth equally. The median wealth level in the United States is \$45 thousand, behind South Korea (\$65 thousand), Singapore (\$101 thousand), and Japan (\$120 thousand), and barely ahead of Germany. With over half the United States population holding wealth less than \$45 thousand, when the average is \$345 thousand, then largely disproportionate amounts of wealth must be accumulated amongst top income earners. Using two measures of wealth inequality, the mean/median ratio and the Gini coefficient, the United States can be classified as having the most tilted accumulation of wealth by far.

Private and Public Debt

United States households hold debt equaling 79% of GDP, second only to South Korea. Adding in corporate and public debt, the US holds total debt equaling 316% of GDP, second only to Japan (Figure 16).

Figure 16



Sources: OECD, Bank for International Settlements

Chapter 4: Social Indicators

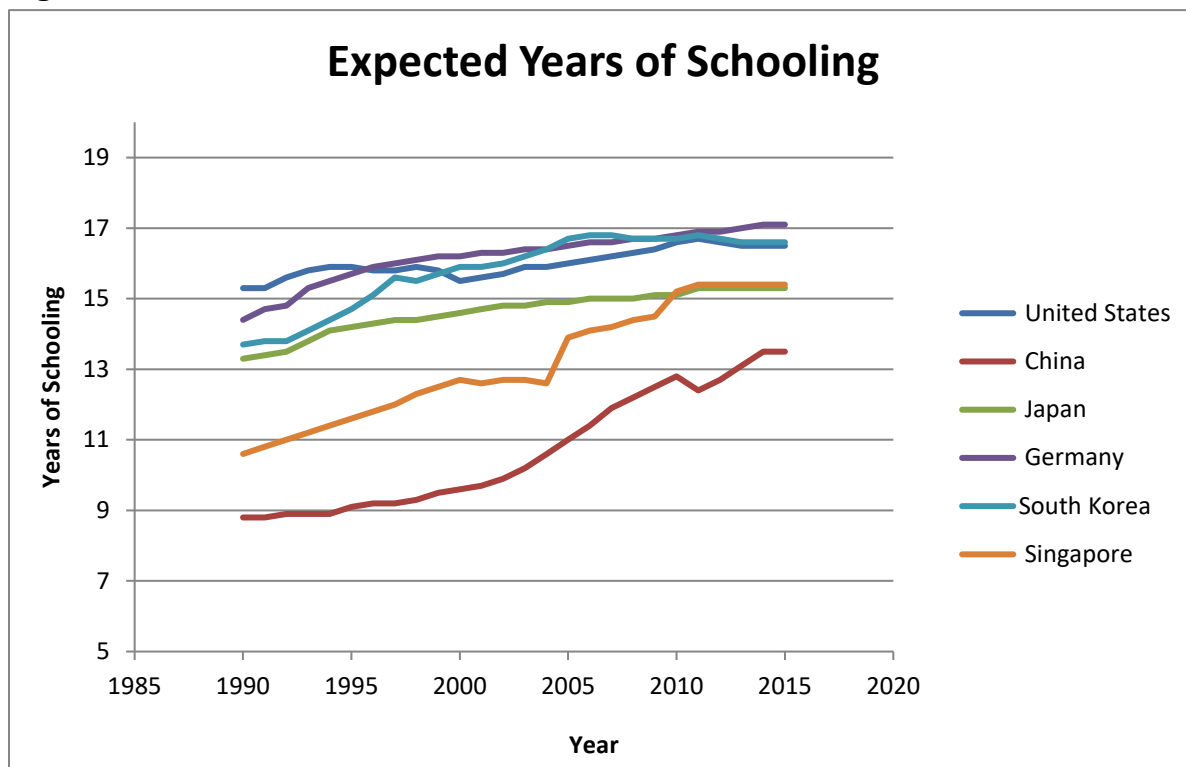
Highlights

- The US is a top nation in years of schooling.
- The US spends more on health care (% of GDP) than any other nation.
- US health outcomes do not match spending levels.
- Several features of the US health care system make it difficult to control costs.

Education

As part of its Human Development Index, the United Nations Development Program tracks information regarding health, education, and incomes for most countries. For our comparison group, all countries have seen an increase in years of schooling since 1990 (Figure 17).

Figure 17

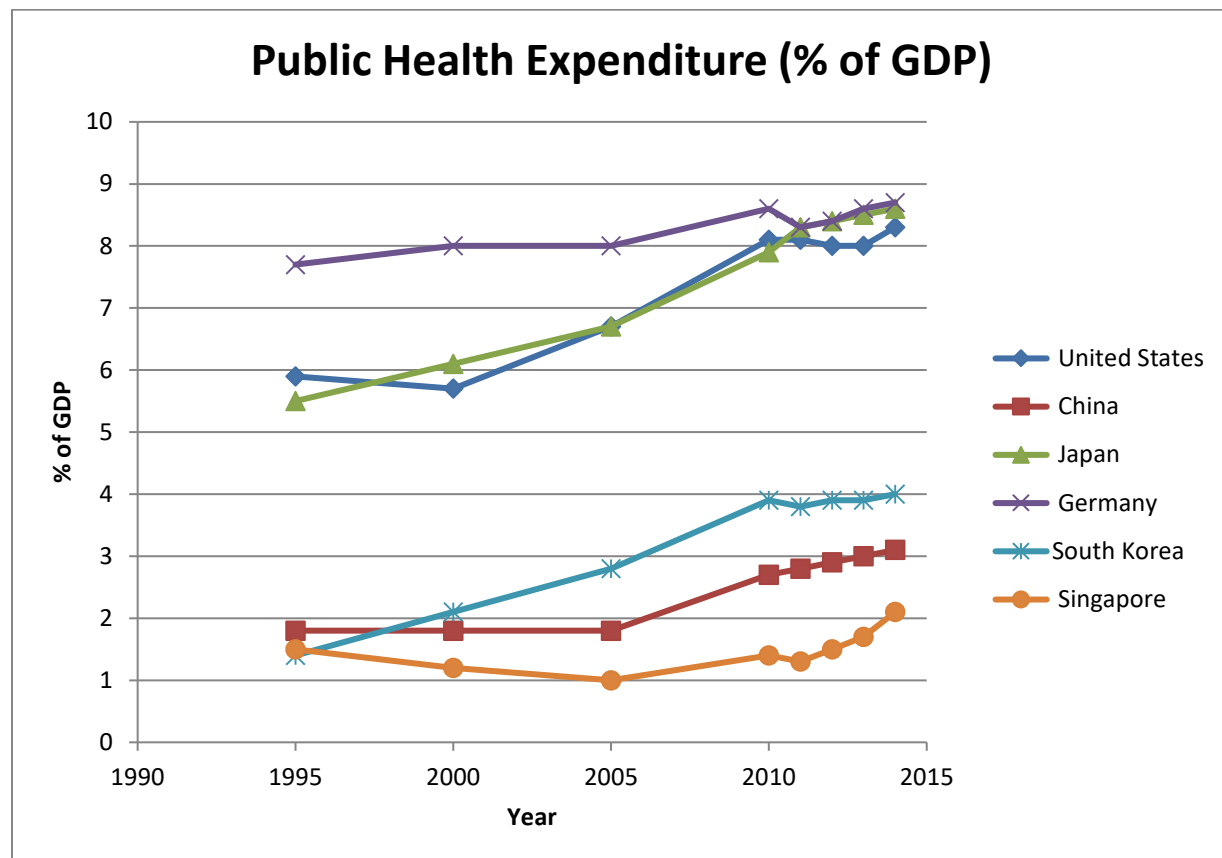


Source: United Nations Development Program

Health Care

While the United States has been falling behind with respect to health outcomes, it is a world leader in health care expenditures. Amongst the comparison group, the US has been second only to Germany regarding government expenditures on health care (Figure 18). This was true even before the passing of the Affordable Care Act when the United States was the only country in the comparison group not to provide universal health care.

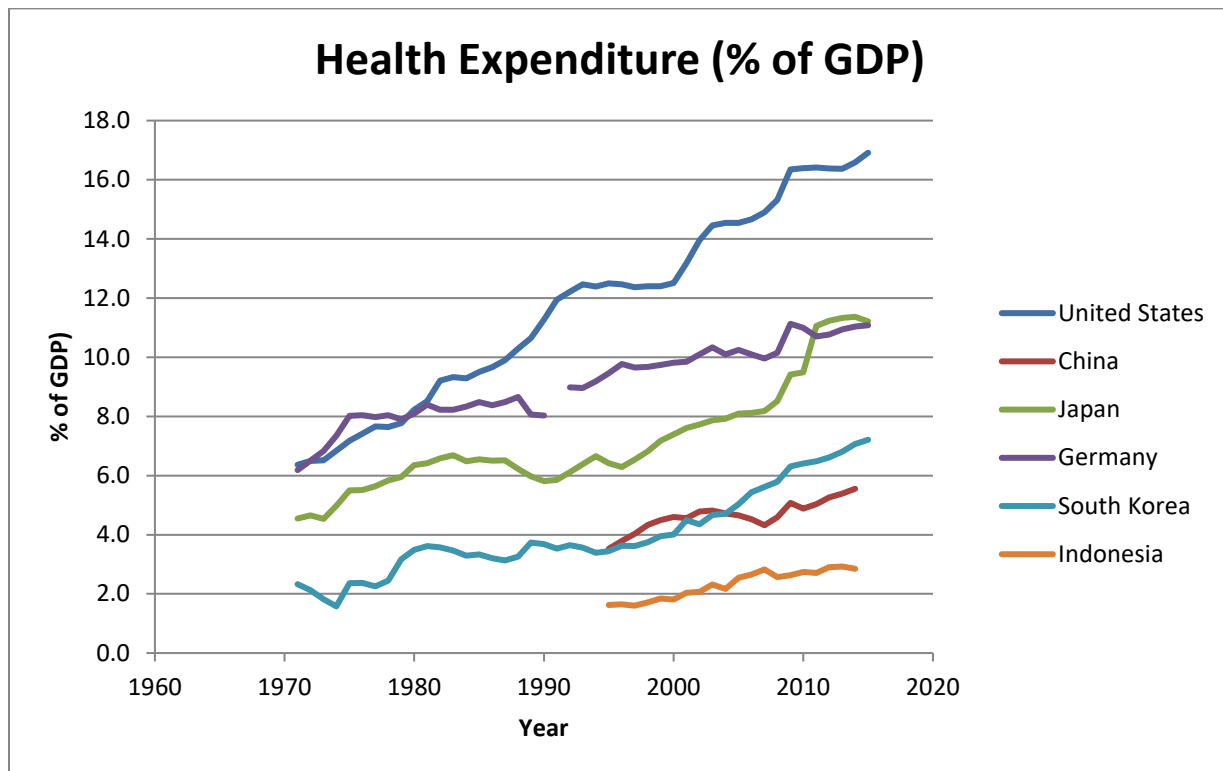
Figure 18



Source: United Nations Development Program

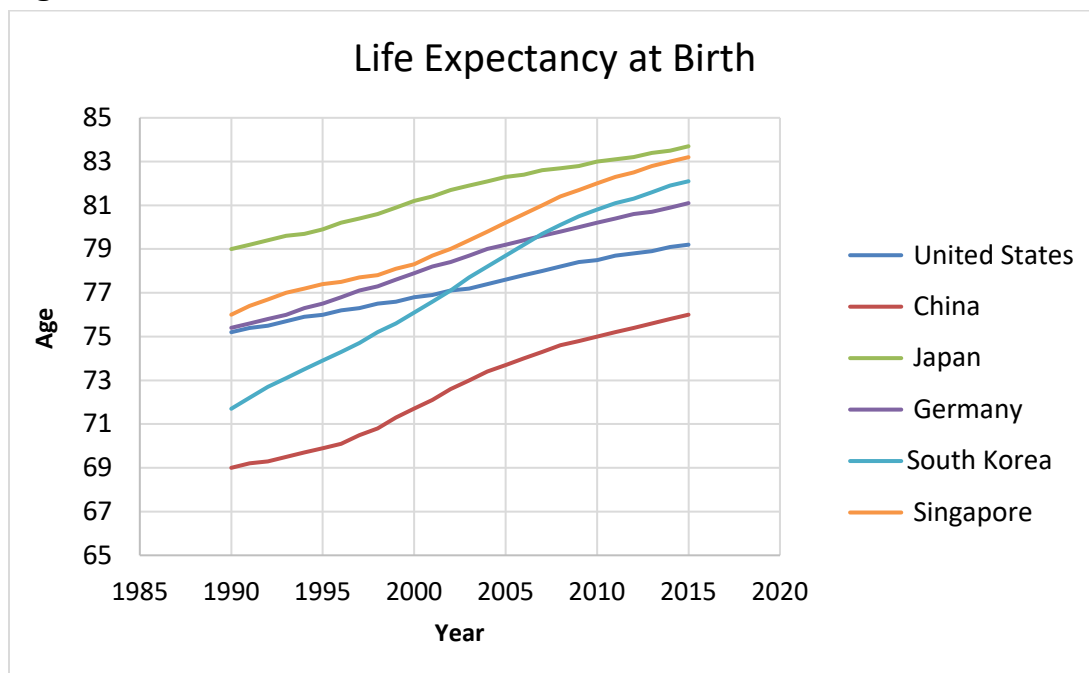
Adding in the cost of private care for each country makes the United States the largest spender on health care by far (Figure 19), spending 16.9% of GDP compared to 11.4% for the next closest country, Japan.

Figure 19



Source: OECD Health Statistics

Figure 20



Source: United Nations Development Program

Figure 20 shows life expectancy over time, with the United States (79.2 years) landing ahead of only China (75.8 years), not a great outcome for the country that spends the most money in the world on health care as a percentage of GDP.

Many economists believe that the fragmented nature of the United States health care system drives costs higher. Low-income children have Medicaid, the elderly have Medicare, and the rest of the population has employer-based plans as well as marketplace plans under the Affordable Care Act (ACA). Countries that offer simpler forms of universal care often have price controls (or simply allocate care), which keeps costs down. Table 4 offers a summary of the various health care plans.

With the adoption of the ACA, the United States has moved closer to Germany in mandating the purchase of health insurance while providing subsidies for low-income individuals. However, Germany also implements cost controls and forbids insurers from making a profit on services offered under the mandated plans. With numerous non-profit insurers competing for subsidies and insurance dollars, costs are controlled in a manner not available to the US system and its mandate.

Table 4: Health Care Structure, Select Countries

Country	Year Implemented	Plan	Source
United States	2010	Mandatory Health Coverage - Medicare/Medicaid for applicable groups. - Mandatory insurance - Low-income subsidies - State Level for profit insurance pools	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
China	1980 in decentralized form	Universal Health Coverage - Public financed insurance - Local governments administer - Low income safety net	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
Japan	1961	Universal Health Coverage - Subsidies to providers/insurers - Patients have minor co-pay - Fees set by government	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
Germany	1993 in its current form, but the system dates back to 1883	Mandatory Health Coverage - Mandatory insurance - Non-profit competing insurers - Pay-roll/unemployment deduction to pay system and safety-nets	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
South Korea	1977 with universal coverage by 1989	Universal Health Coverage - Single payer - Decentralized operations	Republic of Korea Health System Review, Health Systems in Transition, Vol. 5, No. 4, 2015, accessed at: www.wpro.who.int/asia_pacific_observatory/hits/series/korea_health_systems_review.pdf?ua=1
Singapore	1983	Universal Health Coverage - Income dependent subsidies - Mandatory savings - Price controls	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/

Chapter 5: Government Policy

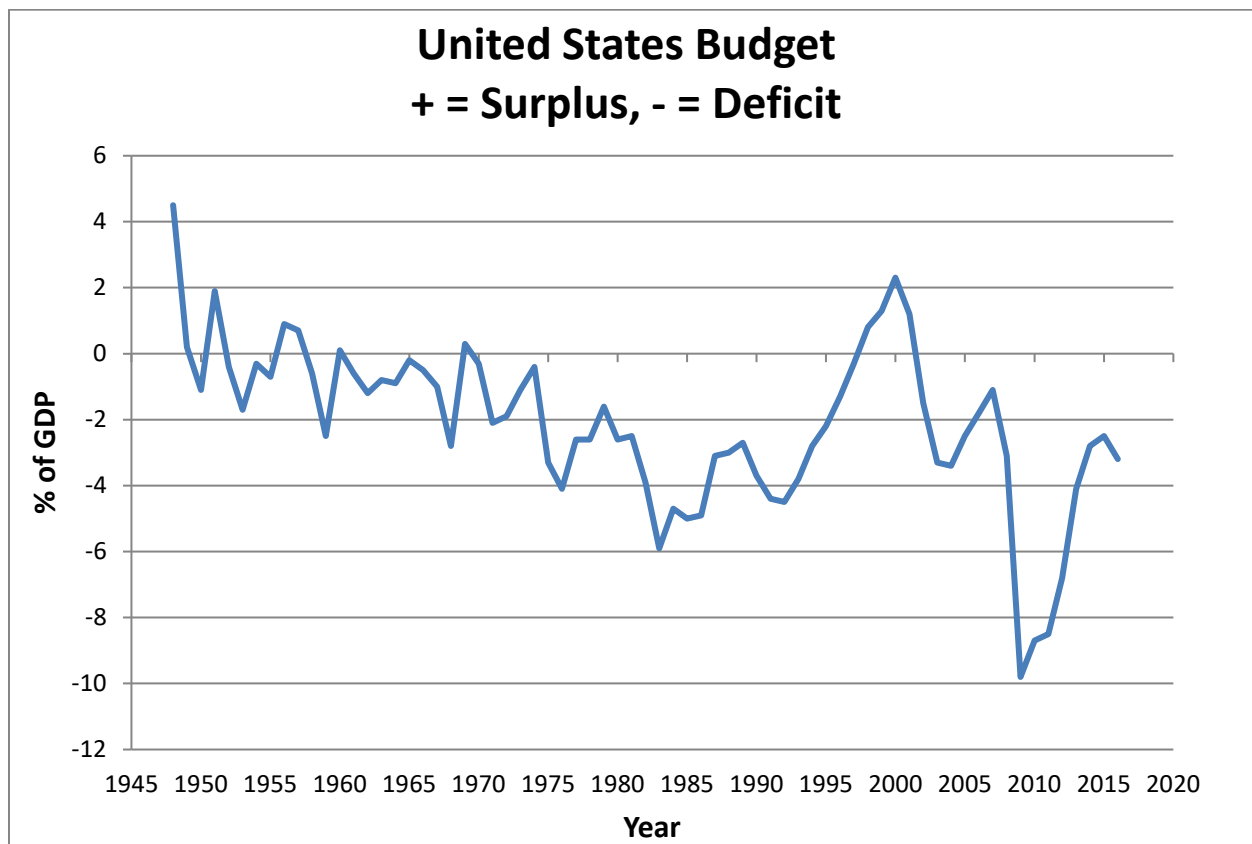
Highlights

- The governments of Japan and the US carry the most debt.
- Japan's government carries debt equaling 234% of GDP.
- The United States has the largest foreign debt exposure at 37% of GDP.
- The US spends the largest percentage of its GDP on military.
- While China's tariffs have decreased, they are still over double US values.

Budgets and Debts

Except for a four-year period at the end of the Clinton administration, the United States has run a budget deficit every year since 1970 (Figure 21).

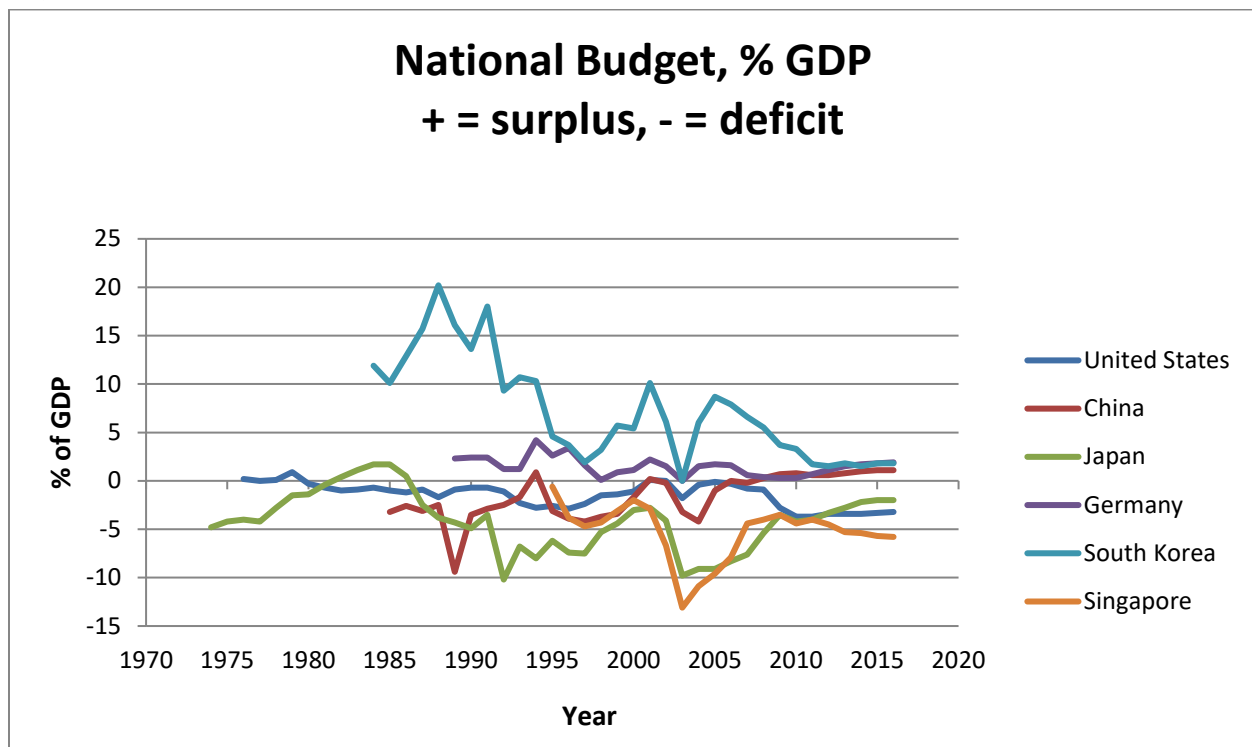
Figure 21



Source: United States Treasury

The US is not unique in carrying ongoing deficits as Japan, Singapore, and until recently China, have operated with losses for much of the past 30 years (Figure 22). In this group, only Germany and South Korea have managed consistent surpluses.

Figure 22

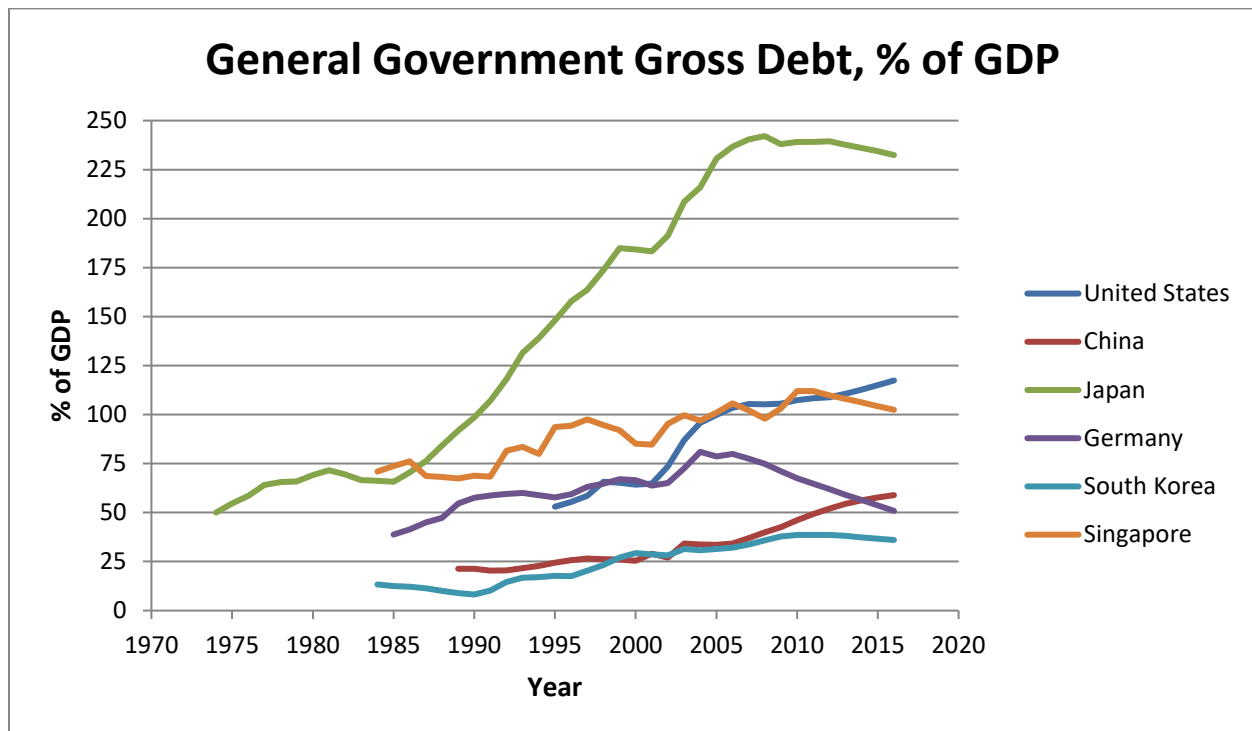


Source: International Monetary Fund

Of this group, Japan has managed to accumulate the largest government debt as a percentage of GDP, totaling 232% (Figure 23). The United States is a distant second carrying debt just over 100% of GDP. The lowest debt load is carried by South Korea at 36% of GDP.

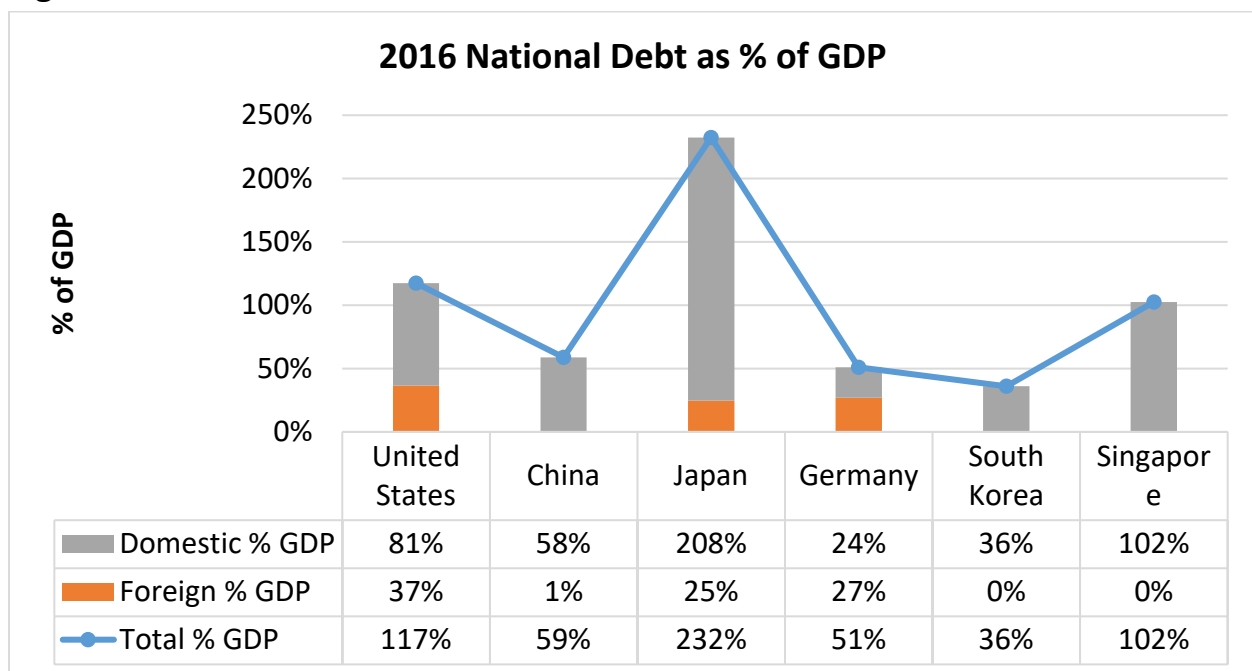
However, total government debt does not tell the whole story as some may be owed to a country's own citizens while some will be due to foreign entities. For instance, of Japan's 232% debt, 208% is owed to domestic entities with a small portion due overseas (Figure 24). Additionally, China, South Korea, and Singapore

Figure 23



Source: International Monetary Fund

Figure 24



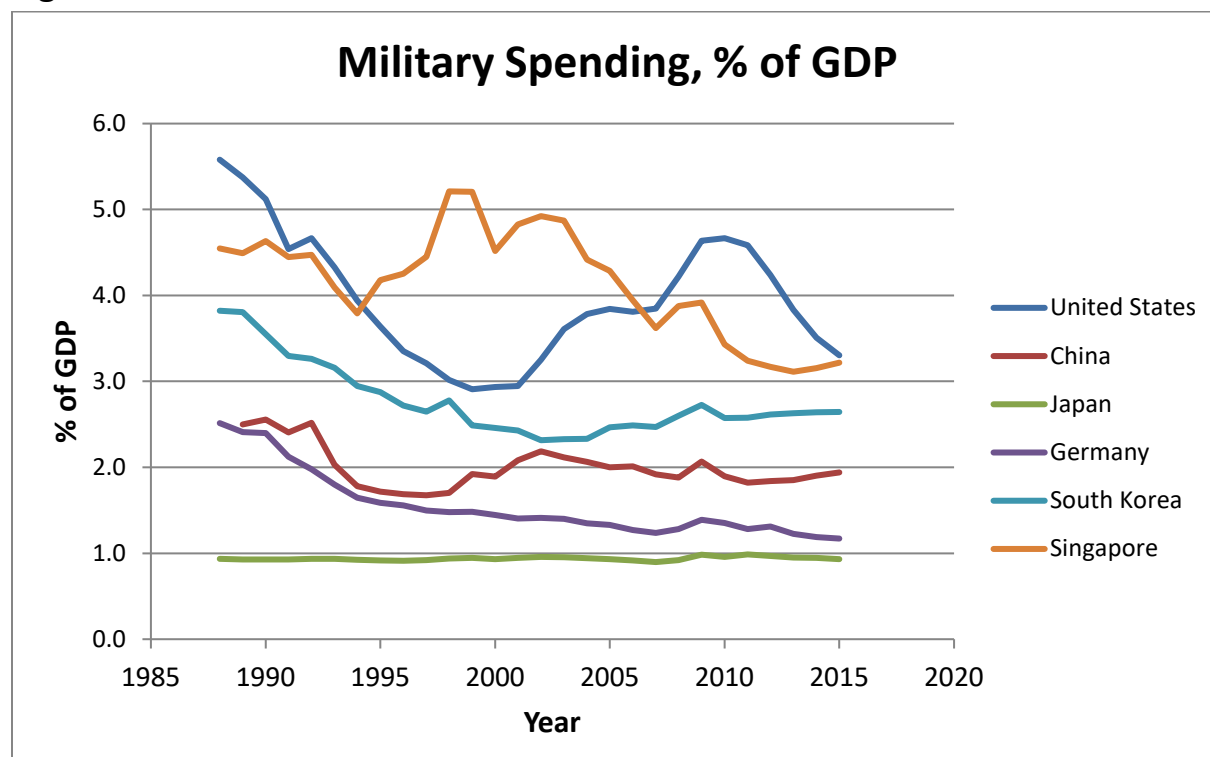
Source: International Monetary Fund and Home Government Statistical Agencies

owe very little debt to foreign concerns. Within our comparison group, the United States government maintains the greatest holdings of debt to foreigners (37%).

Military Spending

While the United States leads the world in dollar denominated military spending, it also leads the comparison group in military spending as a percentage of GDP (3.5%). The two most cautious spenders are Germany and Japan (Figure 25), two countries the US has had a role in protecting since World War II.

Figure 25

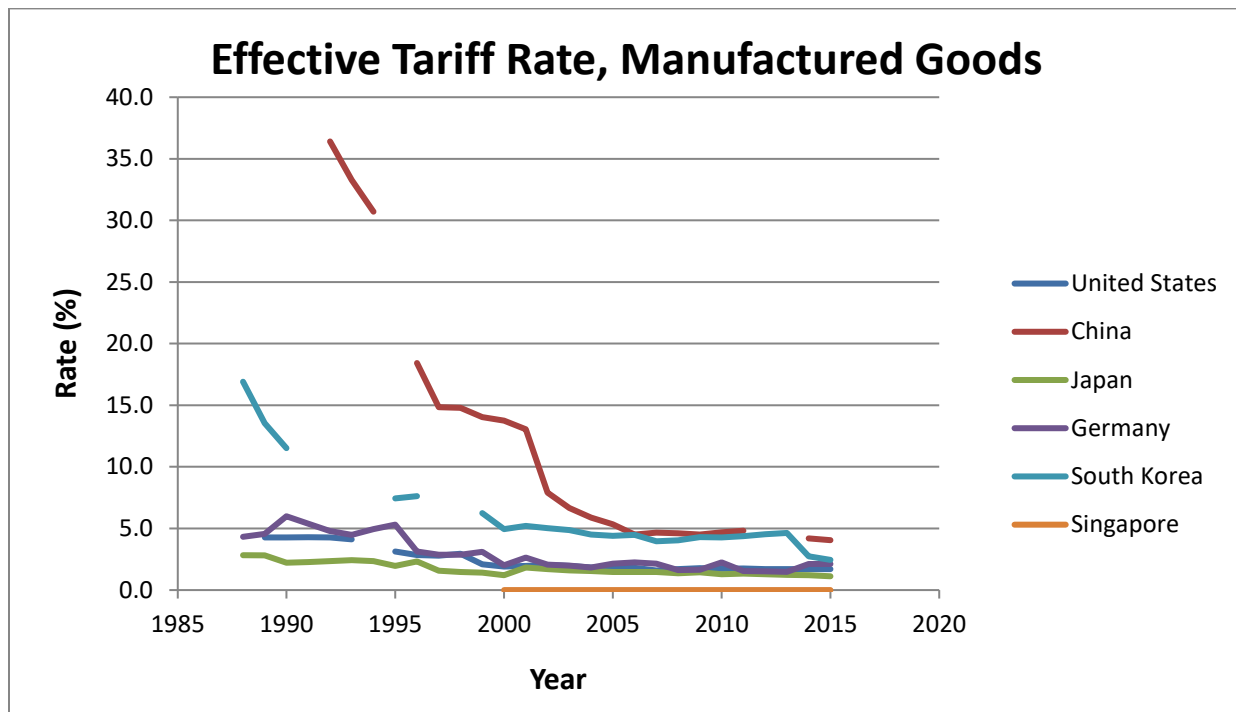


Source: World Development indicators, World Bank

Tax and Tariff Rates

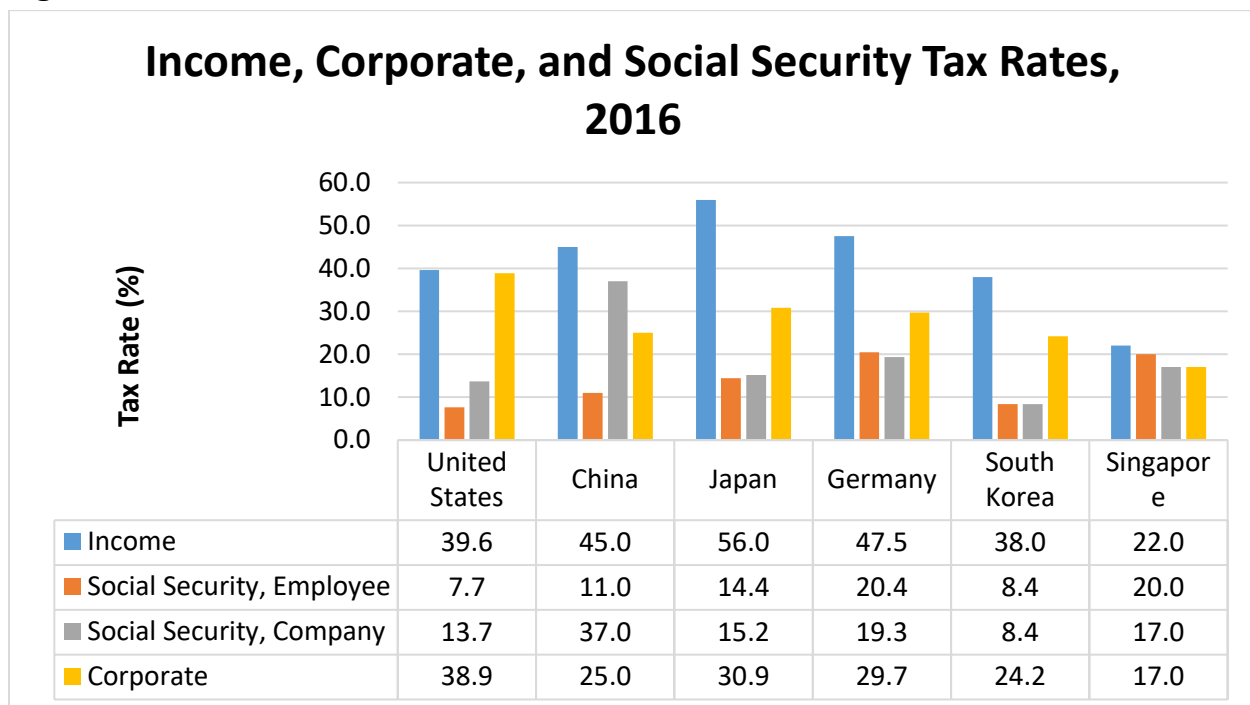
In recent history, China and South Korea have had the most aggressive tariff rates on manufactured goods, with Singapore locating at the other end of the spectrum while operating an open economy (Figure 26).

Figure 26



Source: World Development Indicators, World Bank

Figure 27



Source: Trading Economics

While China's tariff rates have decreased, they are estimated to still be over double the tariff rates in the United States for manufactured products (4.1% vs. 1.7%).

Regarding tax policy, the United States maintains the highest rate on corporations (38.9%) while Japan has the highest top income tax rate and China charges the most for social security, although over 75% of the taxes are charged to an employee's company.

Chapter 6: Industrial Indicators

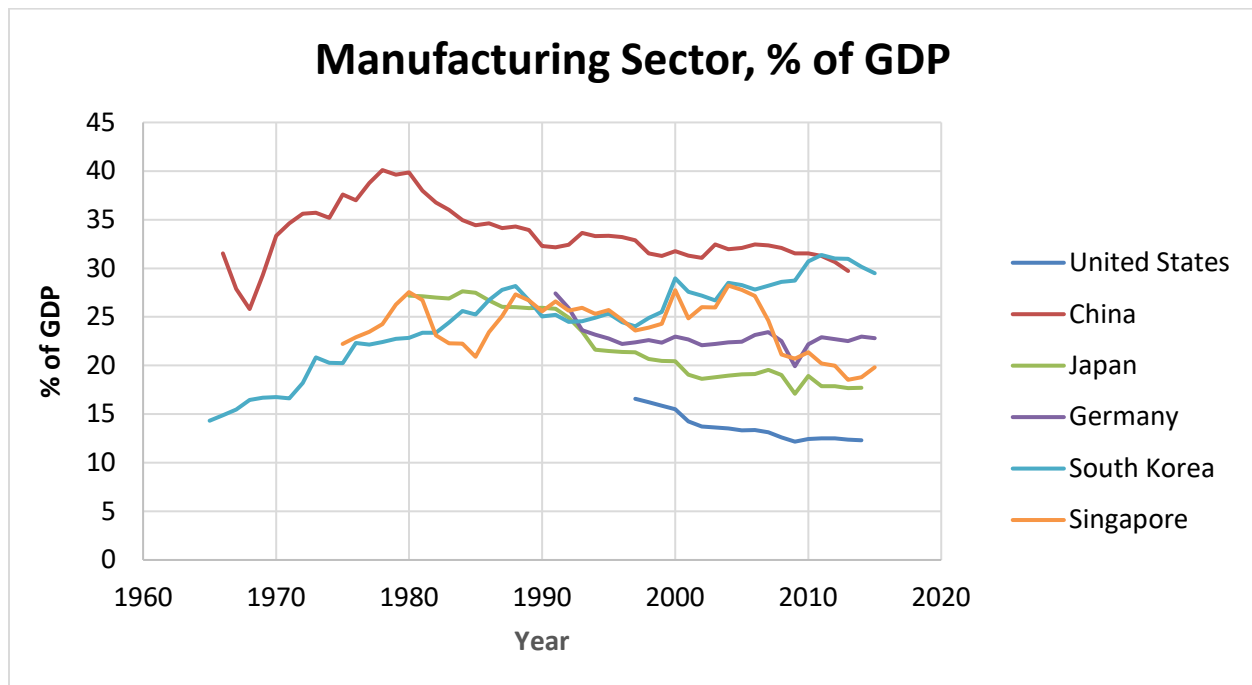
Highlights

- Manufacturing sectors have been on the decline in the United States.
- The US ranks last in production dedicated to manufactured goods.
- Job multipliers are typically higher for manufacturing than for service industries.

The Decline of Manufacturing

In 1987, one Japanese company cracked the top 25 global leaders in revenue. This company is the Toyota Motor Corporation. The other 24 companies were all American. Turn the page to 2015 and only 10 of the top 25 companies are from the United States as industries from developed and developing nations alike have become increasingly competitive over the past 28 years.

Figure 28



Source: World Development Indicators, World Bank

The story is much the same in the US manufacturing sector, which has seen a steady decline over the past half century. Therefore, it should not be surprising to

state that within our comparison group, the US ranks last (12%) with respect to the manufacturing contribution to GDP (Figure 28).

Recall the large trade deficits from Chapter 1, which totaled \$16.3 trillion for manufactured products over the past 31 years. Mathematically, this equates to the cost of hiring 7 million skilled production workers for 31 years at \$75 thousand per year (Table 5). Economically, one cannot conclude that closing the trade deficit would automatically create 7 million jobs. However, the calculation does elucidate the scale and weight of such deficits on the United States economy.

Table 5: Manufacturing Labor Costs (2015)

Item	Value	Units
Total Labor Costs	1,025,232	Millions of 2015 \$
Employees	12,655	Thousands
Costs per Employee	81,014	2015 \$
Producer Price Index, Manufacturing	188.5	2015
Producer Price Index, Manufacturing	174.7	2010
Cost per Employee	75,083	2010 \$

Sources: The Conference Board, International Labor Comparisons;
Bureau of Labor Statistics for PPI

The Benefits of Manufacturing

When attracting industry to our town, the Greater Lafayette Chamber of commerce tries to attract manufacturers instead of service providers. The rationale has two components:

- 1) Most goods can be traded anywhere in the world, creating more exports and generating income from overseas, whereas services are typically limited to local markets.
- 2) Manufacturing positions create more additional jobs in the local community than do service oriented positions. This is the multiplier effect of manufacturing.

Job multipliers indicate how many total jobs will be created within a region due to a new position in a particular industry. Referring to Table 6, traditional manufacturing sectors have larger multipliers than trade and service sectors. Therefore, creating a manufacturing position can be more beneficial to a local economy than creating a service position, even if at the same pay level.

Table 6: Job Multipliers for Select Sectors and Regions

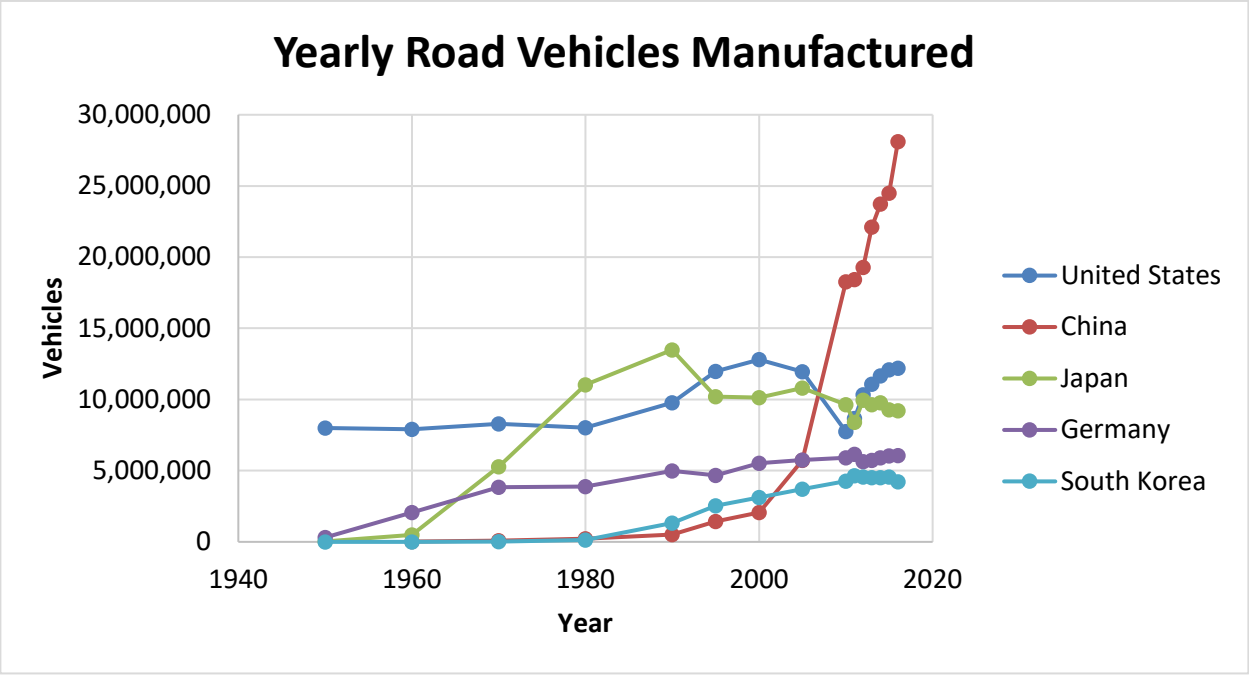
Industry	United States	Japan	EU-27 (Germany)
Chemicals	4.0	5.0	2.3
Transport Equipment	3.2	3.9	2.0
Basic Metals	2.2	3.0	1.7
Electrical Equipment	2.2	2.4	1.8
Machinery & Equipment	2.2	2.4	1.6
Financial Activities	2.1	2.0	1.8
Non-metallic Minerals	1.9	2.0	1.8
Textiles	1.8	1.6	1.5
Construction	1.6	1.7	1.7
Wholesale Trade	1.5	1.7	1.6
Business Service	1.5	1.5	1.5
Accommodation	1.3	1.5	1.4

Source: Study on 'Monitoring of Sectoral Employment' by Robert Stehrer and Terry Ward, 2012, The Vienna Institute for International Economic Studies.

Sectoral Comparisons

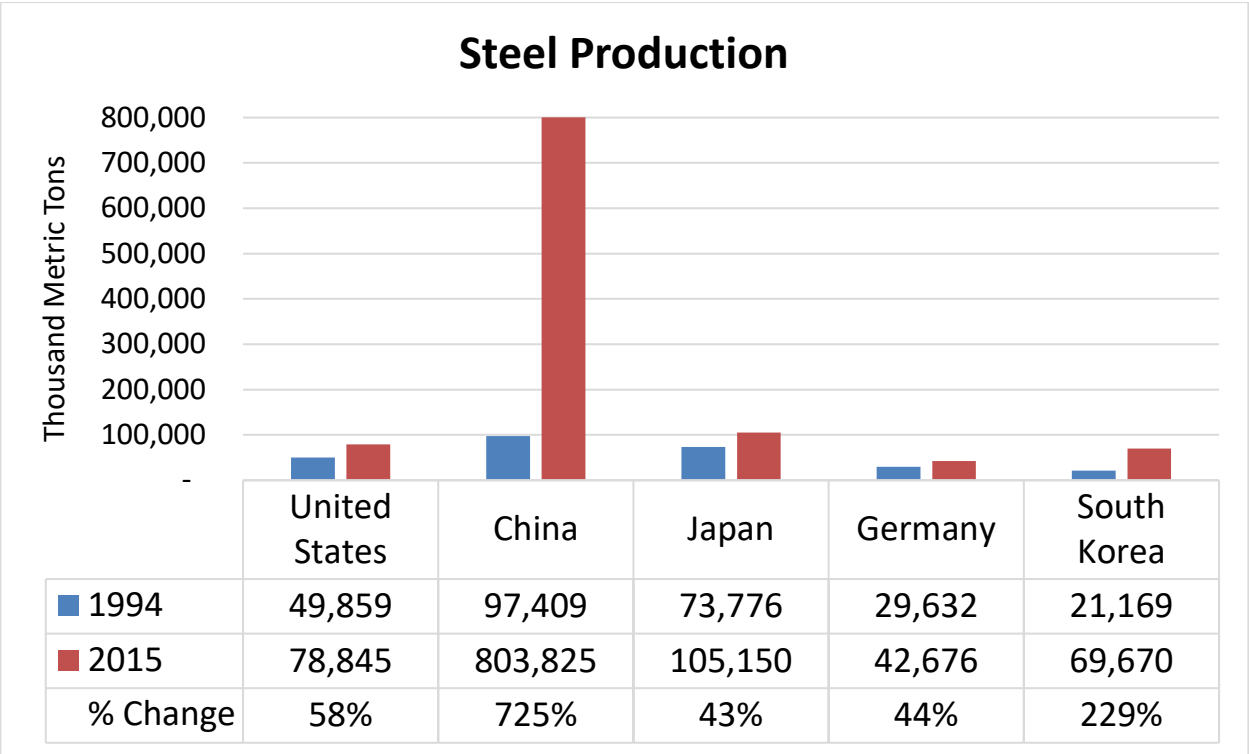
The following table and graphs demonstrate sectoral trends in automobile, steel, aluminum, and paper production. In all four cases, China has bypassed the other countries in our group with respect to production levels.

Figure 29



Source: International Organization of Motor Vehicle Manufacturers

Figure 30



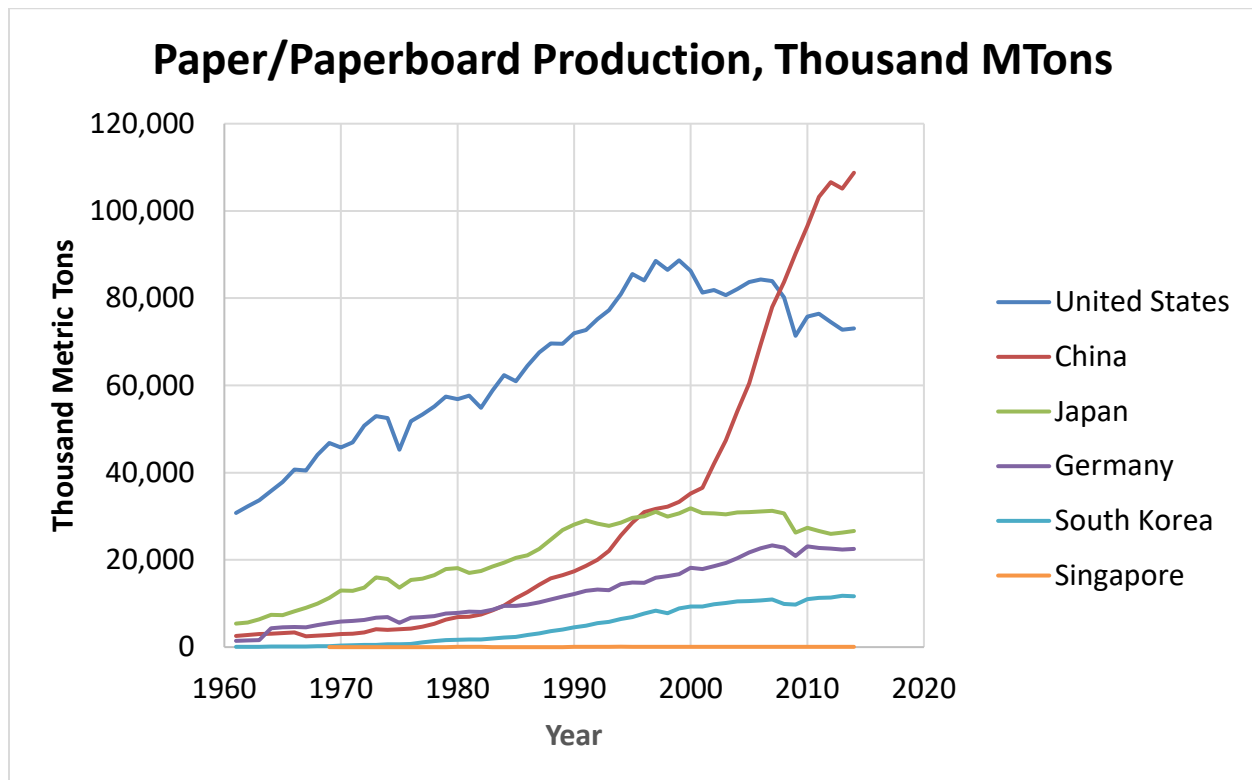
Source: World Steel Association

Table 7: Aluminum Production, Metric Tons

Year	United States	China	Japan	Germany
2015	1,600,000	32,000,000		
2014	1,710,000	24,400,000		500,000
2012	2,070,000	20,300,000	50,000	410,000
1994	3,300,000	1,450,000	17,000	505,000
% Change 1994 – 2012	-37%	1300%	194%	-19%

Source: United States Geological Series

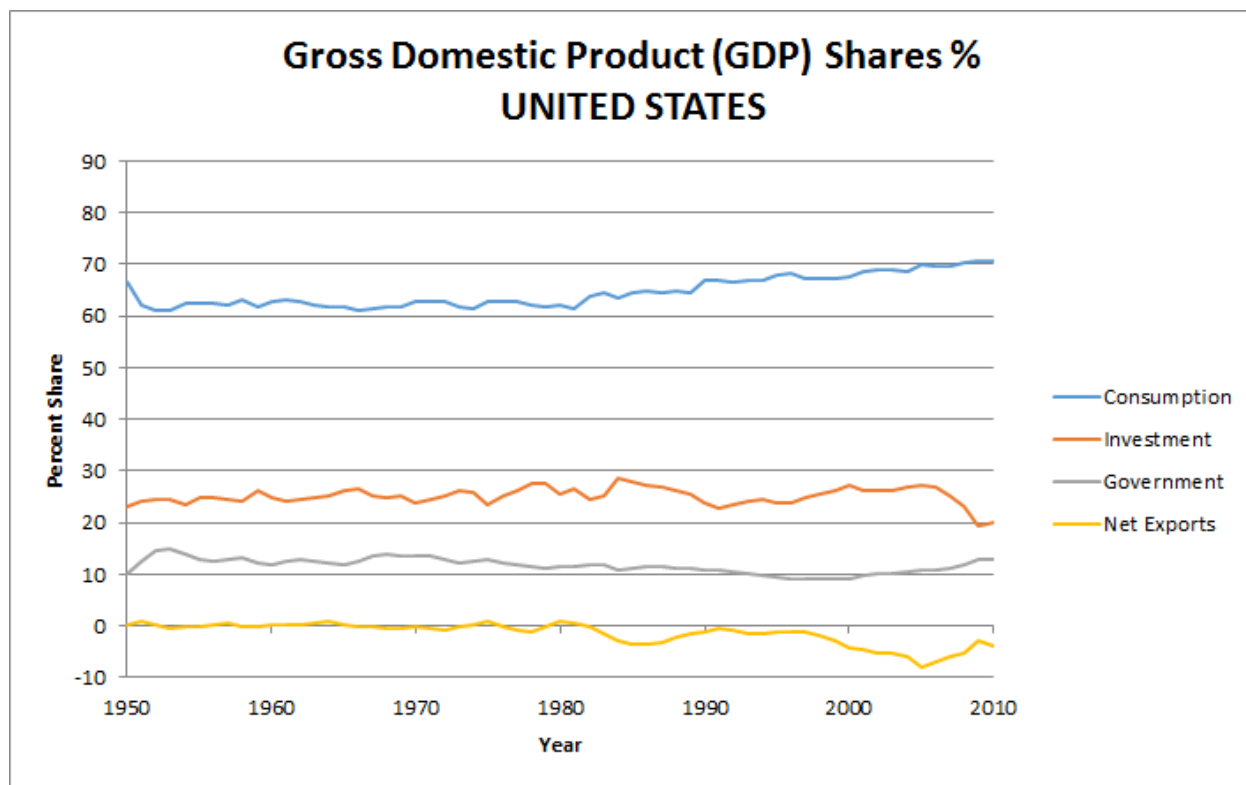
Figure 31



Source: Food and Agricultural Organization of the United Nations, Statistics Division

APPENDICES

Appendix A: National Account Data

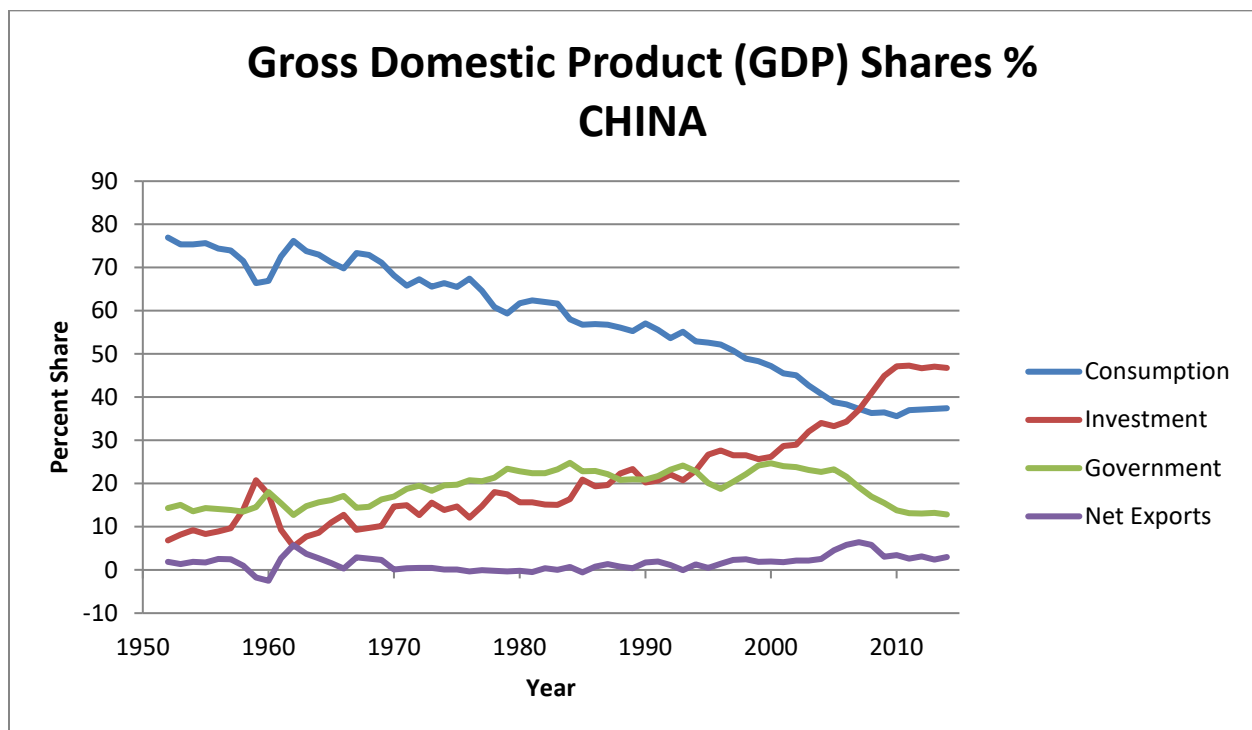


Source: Feenstra, Robert C. Robert Inklaar and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table' American Economic Review, 105(10), 3150-3182, available for download at www.ggd.net/pwt

Year	Consumption	Investment	Government	Net Exports
2014	71.7	20.8	11.3	-3.8
2013	71.3	20.6	11.7	-3.5
2012	71.1	20.8	12.1	-4.0
2011	71.6	20.1	12.5	-4.2
2010	70.7	20.1	12.9	-3.7
2009	70.7	19.4	12.8	-3.0
2008	70.2	23.2	11.8	-5.2
2007	69.7	25.2	11.1	-6.0
2006	69.5	26.8	10.8	-7.1
2005	69.8	27.3	10.7	-7.9
2004	68.7	27.0	10.4	-6.0
2003	68.8	26.2	10.3	-5.4
2002	68.9	26.3	10.0	-5.2
2001	68.7	26.1	9.7	-4.4
2000	67.6	27.2	9.3	-4.1

Year	Consumption	Investment	Government	Net Exports
1999	67.4	26.3	9.3	-2.9
1998	67.1	25.5	9.2	-1.9
1997	67.1	25.0	9.2	-1.3
1996	68.2	24.0	9.1	-1.3
1995	67.8	23.8	9.6	-1.2
1994	67.0	24.5	10.0	-1.5
1993	67.0	24.2	10.2	-1.4
1992	66.6	23.4	10.6	-0.6
1991	66.8	22.8	10.9	-0.4
1990	66.8	23.8	10.7	-1.3
1989	64.6	25.6	11.3	-1.5
1988	64.7	26.2	11.3	-2.2
1987	64.6	27.0	11.5	-3.1
1986	64.7	27.1	11.7	-3.5
1985	64.4	27.9	11.2	-3.4
1984	63.4	28.6	11.0	-3.0
1983	64.6	25.1	11.7	-1.5
1982	63.7	24.5	12.0	-0.2
1981	61.5	26.5	11.4	0.6
1980	62.2	25.4	11.4	1.0
1979	61.7	27.5	11.1	-0.3
1978	62.0	27.6	11.4	-1.0
1977	62.7	26.4	11.8	-0.9
1976	62.6	25.2	12.2	-0.1
1975	62.7	23.3	13.0	1.0
1974	61.4	26.0	12.5	0.2
1973	61.6	26.2	12.1	0.0
1972	62.7	25.2	13.0	-0.8
1971	62.7	24.5	13.4	-0.5
1970	62.8	23.7	13.7	-0.2
1969	61.9	25.0	13.7	-0.6
1968	61.9	24.9	13.8	-0.6
1967	61.3	25.3	13.6	-0.2
1966	61.0	26.5	12.4	0.0
1965	61.7	26.0	11.9	0.3
1964	61.8	25.3	12.1	0.8
1963	62.1	25.0	12.5	0.4
1962	62.6	24.4	12.7	0.2
1961	63.2	24.1	12.5	0.2
1960	62.9	25.0	12.0	0.1

Year	Consumption	Investment	Government	Net Exports
1959	61.9	26.1	12.2	-0.2
1958	63.0	24.0	13.2	-0.2
1957	62.2	24.4	12.8	0.7
1956	62.3	24.8	12.5	0.4
1955	62.4	24.8	12.8	0.0
1954	62.6	23.5	13.9	0.0
1953	61.1	24.5	14.8	-0.4
1952	60.9	24.4	14.5	0.2
1951	62.1	24.3	12.7	0.9
1950	66.5	23.1	10.2	0.1



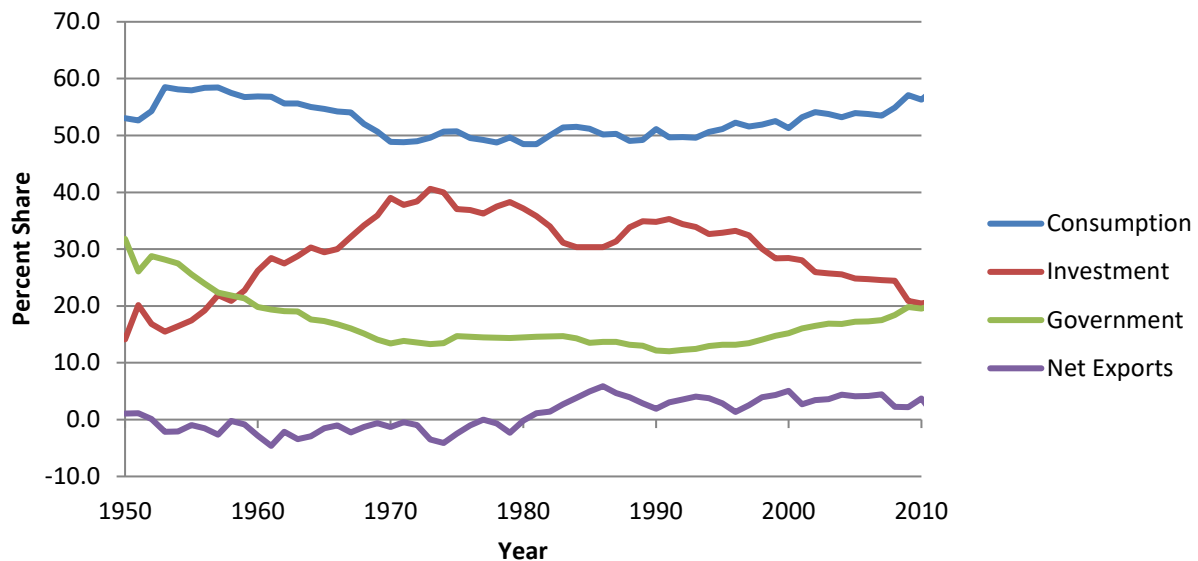
Source: Feenstra, Robert C. Robert Inklaar and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table' American Economic Review, 105(10), 3150-3182, available for download at www.ggdc.net/pwt

Year	Consumption	Investment	Government	Net Exports
2014	37.4	46.8	12.8	3.0

Year	Consumption	Investment	Government	Net Exports
2013	37.3	47.1	13.2	2.4
2012	37.1	46.7	13.1	3.1
2011	37.0	47.3	13.1	2.6
2010	35.6	47.2	13.8	3.4
2009	36.5	44.9	15.5	3.1
2008	36.3	40.9	17.0	5.8
2007	37.3	37.1	19.2	6.4
2006	38.3	34.3	21.6	5.8
2005	38.9	33.3	23.3	4.6
2004	40.8	34.0	22.7	2.6
2003	42.7	32.0	23.2	2.1
2002	45.1	29.0	23.8	2.2
2001	45.5	28.7	24.0	1.8
2000	47.2	26.2	24.7	2.0
1999	48.3	25.6	24.2	1.9
1998	48.9	26.5	22.2	2.4
1997	50.7	26.6	20.4	2.3
1996	52.2	27.7	18.8	1.4
1995	52.6	26.7	20.1	0.5
1994	52.9	23.0	22.8	1.3
1993	55.1	20.8	24.2	-0.1
1992	53.7	22.1	23.2	1.1
1991	55.6	20.7	21.8	2.0
1990	57.1	20.2	20.9	1.8
1989	55.3	23.4	21.0	0.4
1988	56.1	22.3	20.8	0.8
1987	56.8	19.7	22.2	1.4
1986	56.9	19.4	22.9	0.8
1985	56.8	20.9	22.9	-0.6
1984	58.1	16.4	24.8	0.7
1983	61.7	15.1	23.3	0.0
1982	62.0	15.1	22.4	0.4
1981	62.4	15.7	22.4	-0.5
1980	61.7	15.6	22.9	-0.2
1979	59.4	17.5	23.4	-0.3
1978	60.8	18.1	21.4	-0.2
1977	64.7	14.8	20.6	0.0
1976	67.5	12.1	20.8	-0.3
1975	65.5	14.7	19.8	0.1
1974	66.4	13.9	19.6	0.1

Year	Consumption	Investment	Government	Net Exports
1973	65.6	15.6	18.3	0.4
1972	67.3	12.7	19.5	0.5
1971	65.8	15.0	18.8	0.4
1970	68.2	14.7	17.0	0.1
1969	71.2	10.2	16.3	2.3
1968	72.9	9.8	14.6	2.7
1967	73.4	9.3	14.4	2.9
1966	69.8	12.7	17.1	0.3
1965	71.2	11.0	16.2	1.6
1964	73.0	8.6	15.7	2.7
1963	73.8	7.8	14.8	3.7
1962	76.1	5.4	12.7	5.7
1961	72.6	9.3	15.5	2.7
1960	66.9	17.5	18.0	-2.5
1959	66.4	20.8	14.6	-1.7
1958	71.5	14.0	13.5	1.0
1957	74.0	9.7	13.9	2.4
1956	74.4	8.9	14.1	2.5
1955	75.6	8.3	14.3	1.7
1954	75.4	9.2	13.6	1.9
1953	75.4	8.2	15.1	1.4
1952	76.9	6.8	14.4	1.9

Gross Domestic Product (GDP) Shares % JAPAN

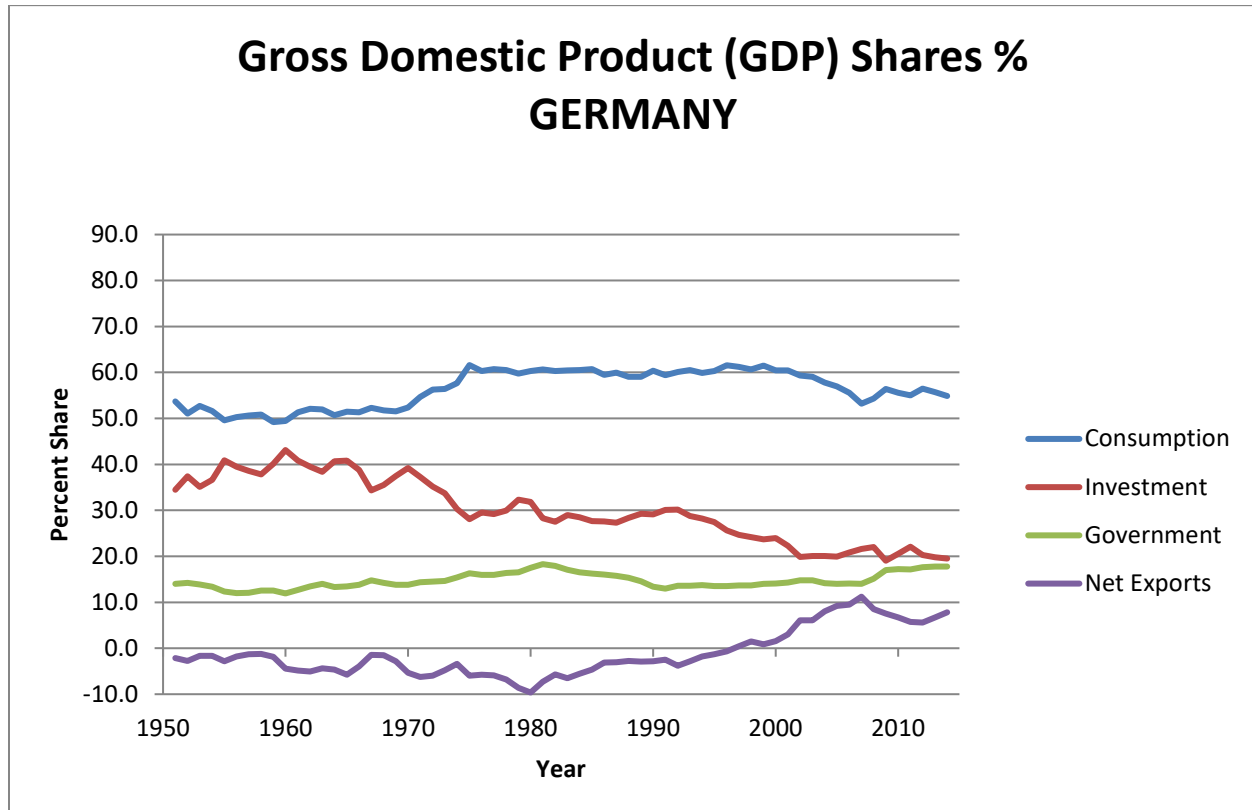


Source: Feenstra, Robert C. Robert Inklaar and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table' American Economic Review, 105(10), 3150-3182, available for download at www.ggdc.net/pwt

Year	Consumption	Investment	Government	Net Exports
2014	59.9	21.8	20.9	-2.6
2013	60.3	21.2	20.8	-2.3
2012	59.3	21.5	20.4	-1.2
2011	58.1	20.9	20.3	0.7
2010	56.3	20.5	19.5	3.7
2009	57.1	20.9	19.8	2.2
2008	54.9	24.4	18.4	2.3
2007	53.5	24.5	17.5	4.5
2006	53.8	24.7	17.3	4.2
2005	53.9	24.8	17.2	4.1
2004	53.2	25.6	16.8	4.4
2003	53.8	25.7	16.9	3.6
2002	54.1	26.0	16.5	3.4
2001	53.2	28.0	16.1	2.7
2000	51.3	28.4	15.2	5.1
1999	52.5	28.4	14.8	4.3
1998	51.9	30.0	14.1	3.9
1997	51.6	32.4	13.5	2.5

Year	Consumption	Investment	Government	Net Exports
1996	52.2	33.2	13.2	1.4
1995	51.1	32.9	13.2	2.8
1994	50.6	32.6	13.0	3.8
1993	49.6	33.9	12.5	4.0
1992	49.7	34.4	12.3	3.6
1991	49.6	35.3	12.0	3.1
1990	51.1	34.8	12.2	1.9
1989	49.2	34.9	13.0	2.9
1988	49.0	33.8	13.2	4.0
1987	50.3	31.4	13.7	4.7
1986	50.1	30.3	13.7	5.9
1985	51.2	30.3	13.5	5.0
1984	51.5	30.3	14.3	3.8
1983	51.4	31.2	14.7	2.7
1982	50.0	34.0	14.6	1.4
1981	48.5	35.8	14.6	1.1
1980	48.5	37.2	14.5	-0.1
1979	49.6	38.3	14.4	-2.3
1978	48.8	37.5	14.4	-0.7
1977	49.2	36.3	14.5	0.0
1976	49.5	36.9	14.6	-1.0
1975	50.7	37.1	14.7	-2.5
1974	50.7	40.0	13.5	-4.1
1973	49.6	40.6	13.3	-3.5
1972	49.0	38.4	13.6	-1.0
1971	48.8	37.8	13.8	-0.4
1970	48.9	39.0	13.4	-1.3
1969	50.7	35.9	14.0	-0.6
1968	52.0	34.2	15.1	-1.3
1967	54.0	32.1	16.1	-2.2
1966	54.2	30.0	16.8	-1.0
1965	54.7	29.5	17.4	-1.5
1964	55.0	30.3	17.6	-2.9
1963	55.7	28.8	19.0	-3.5
1962	55.6	27.5	19.1	-2.2
1961	56.8	28.4	19.4	-4.6
1960	56.8	26.2	19.8	-2.8
1959	56.8	22.7	21.3	-0.8
1958	57.5	20.9	21.9	-0.2
1957	58.4	21.9	22.3	-2.7
1956	58.4	19.2	23.9	-1.5
1955	57.9	17.5	25.5	-1.0
1954	58.1	16.5	27.5	-2.1

Year	Consumption	Investment	Government	Net Exports
1953	58.5	15.5	28.1	-2.1
1952	54.3	16.8	28.8	0.1
1951	52.7	20.1	26.1	1.1
1950	53.0	14.1	31.8	1.1

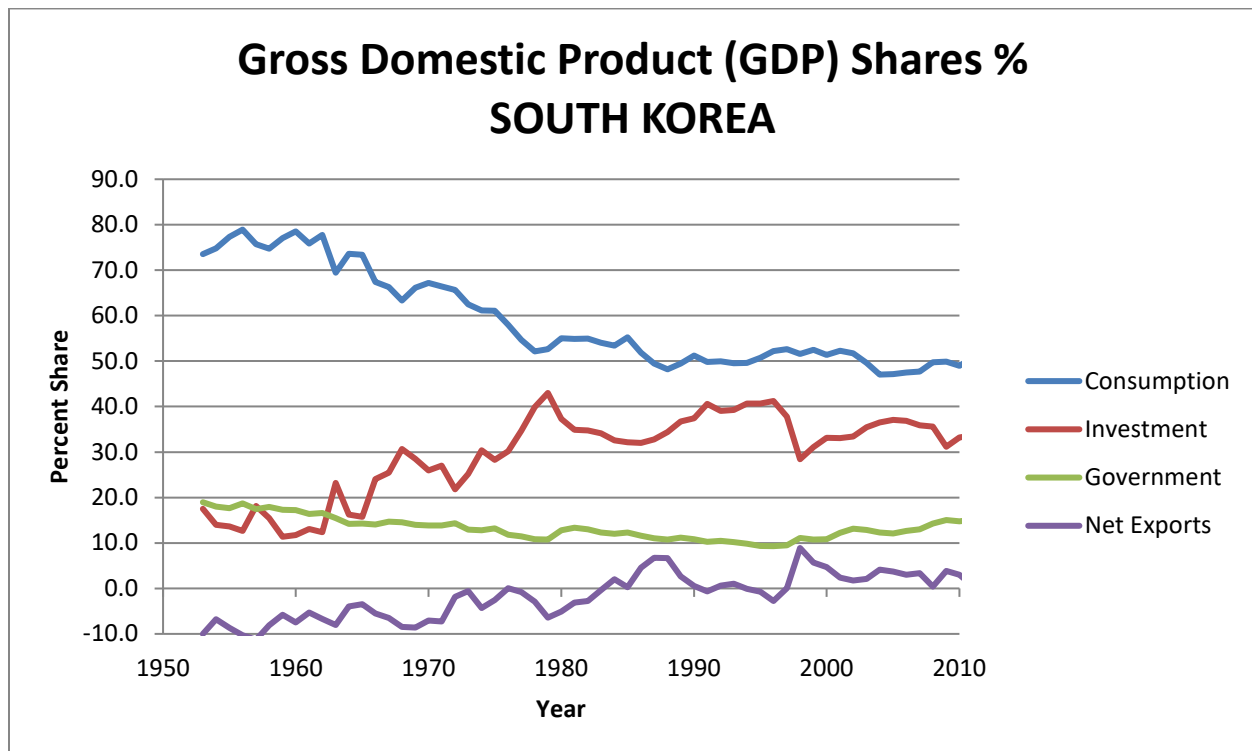


Source: Feenstra, Robert C. Robert Inklaar and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table' American Economic Review, 105(10), 3150-3182, available for download at www.ggdc.net/pwt

Year	Consumption	Investment	Government	Net Exports
2014	54.9	19.5	17.8	7.8
2013	55.7	19.8	17.7	6.7
2012	56.5	20.3	17.6	5.6
2011	55.0	22.1	17.2	5.7
2010	55.5	20.5	17.2	6.7
2009	56.4	19.0	17.0	7.5
2008	54.3	22.0	15.1	8.5
2007	53.2	21.6	14.0	11.2
2006	55.6	20.9	14.1	9.5

Year	Consumption	Investment	Government	Net Exports
2005	56.9	19.9	14.0	9.2
2004	57.8	20.1	14.1	8.0
2003	59.1	20.1	14.8	6.1
2002	59.3	19.9	14.8	6.1
2001	60.4	22.3	14.3	3.0
2000	60.4	23.9	14.1	1.6
1999	61.5	23.7	14.0	0.8
1998	60.7	24.2	13.7	1.5
1997	61.2	24.7	13.6	0.4
1996	61.6	25.6	13.5	-0.7
1995	60.3	27.5	13.5	-1.3
1994	59.9	28.2	13.7	-1.8
1993	60.5	28.8	13.6	-2.9
1992	60.1	30.1	13.6	-3.8
1991	59.4	30.1	13.0	-2.5
1990	60.4	29.1	13.4	-2.8
1989	59.1	29.3	14.6	-2.9
1988	59.1	28.3	15.4	-2.8
1987	60.0	27.3	15.8	-3.1
1986	59.5	27.6	16.1	-3.1
1985	60.7	27.7	16.2	-4.7
1984	60.5	28.5	16.5	-5.6
1983	60.5	29.0	17.1	-6.5
1982	60.3	27.5	17.9	-5.7
1981	60.7	28.3	18.3	-7.3
1980	60.3	31.9	17.5	-9.6
1979	59.7	32.3	16.5	-8.6
1978	60.5	30.0	16.4	-6.8
1977	60.7	29.2	15.9	-5.9
1976	60.3	29.5	15.9	-5.8
1975	61.6	28.1	16.3	-6.0
1974	57.7	30.3	15.4	-3.4
1973	56.4	33.7	14.6	-4.8
1972	56.3	35.2	14.5	-6.0
1971	54.7	37.2	14.3	-6.2
1970	52.4	39.2	13.8	-5.4
1969	51.5	37.4	13.8	-2.8
1968	51.7	35.5	14.2	-1.5
1967	52.3	34.4	14.8	-1.5
1966	51.3	38.8	13.8	-4.0

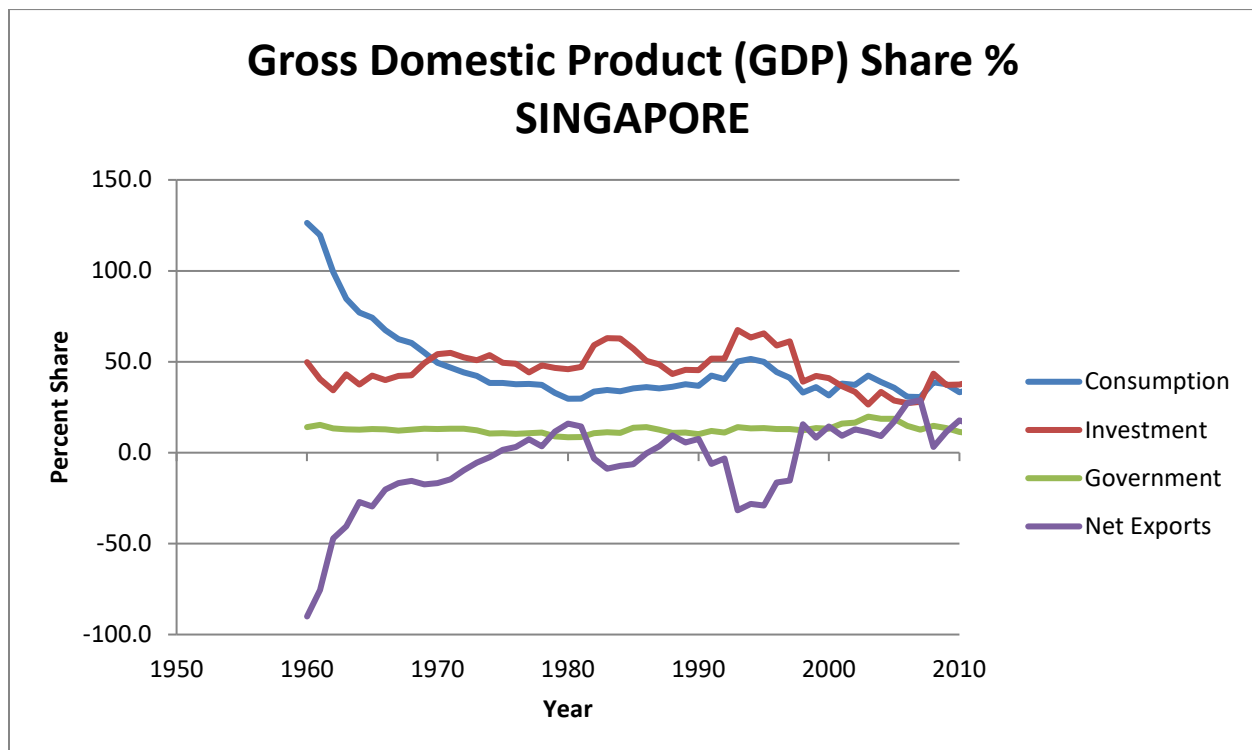
Year	Consumption	Investment	Government	Net Exports
1965	51.5	40.8	13.5	-5.8
1964	50.7	40.7	13.3	-4.6
1963	52.0	38.4	14.0	-4.4
1962	52.1	39.5	13.4	-5.1
1961	51.3	40.8	12.7	-4.9
1960	49.4	43.1	11.9	-4.5
1959	49.2	40.1	12.5	-1.8
1958	50.8	37.8	12.6	-1.2
1957	50.7	38.6	12.1	-1.3
1956	50.3	39.5	12.0	-1.8
1955	49.6	40.9	12.4	-2.8
1954	51.6	36.6	13.4	-1.6
1953	52.7	35.1	13.9	-1.6
1952	51.1	37.4	14.2	-2.8
1951	53.7	34.5	14.0	-2.1



Source: Feenstra, Robert C. Robert Inklaar and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table' American Economic Review, 105(10), 3150-3182, available for download at www.ggdc.net/pwt

Year	Consumption	Investment	Government	Net Exports
2014	49.5	30.4	15.2	5.0
2013	50.5	30.4	15.4	3.7
2012	51.1	32.1	15.3	1.5
2011	50.7	33.7	15.1	0.5
2010	49.0	33.2	14.8	3.0
2009	49.9	31.2	15.1	3.8
2008	49.8	35.6	14.3	0.4
2007	47.7	35.9	13.0	3.4
2006	47.5	36.9	12.7	3.0
2005	47.1	37.1	12.1	3.7
2004	47.0	36.5	12.3	4.2
2003	49.6	35.4	12.8	2.1
2002	51.7	33.4	13.1	1.7
2001	52.3	33.1	12.3	2.4
2000	51.3	33.1	10.9	4.7
1999	52.5	31.1	10.7	5.7
1998	51.6	28.4	11.1	8.9
1997	52.7	37.8	9.5	0.0
1996	52.2	41.2	9.3	-2.7
1995	50.7	40.7	9.3	-0.7
1994	49.6	40.7	9.9	-0.1
1993	49.5	39.2	10.2	1.1
1992	49.9	39.0	10.4	0.6
1991	49.8	40.6	10.2	-0.7
1990	51.2	37.4	10.8	0.5
1989	49.4	36.7	11.2	2.6
1988	48.2	34.4	10.8	6.7
1987	49.4	32.8	11.0	6.7
1986	51.8	32.0	11.6	4.6
1985	55.2	32.2	12.3	0.3
1984	53.4	32.5	12.0	2.0
1983	54.0	34.1	12.3	-0.4
1982	55.0	34.8	13.0	-2.8
1981	54.9	34.9	13.3	-3.1
1980	55.0	37.3	12.8	-5.1
1979	52.6	43.0	10.8	-6.4
1978	52.2	39.9	10.8	-2.9
1977	54.6	34.7	11.5	-0.8
1976	58.0	30.2	11.8	0.0
1975	61.1	28.2	13.2	-2.5
1974	61.2	30.4	12.8	-4.3
1973	62.5	25.1	12.9	-0.6
1972	65.6	21.8	14.4	-1.8

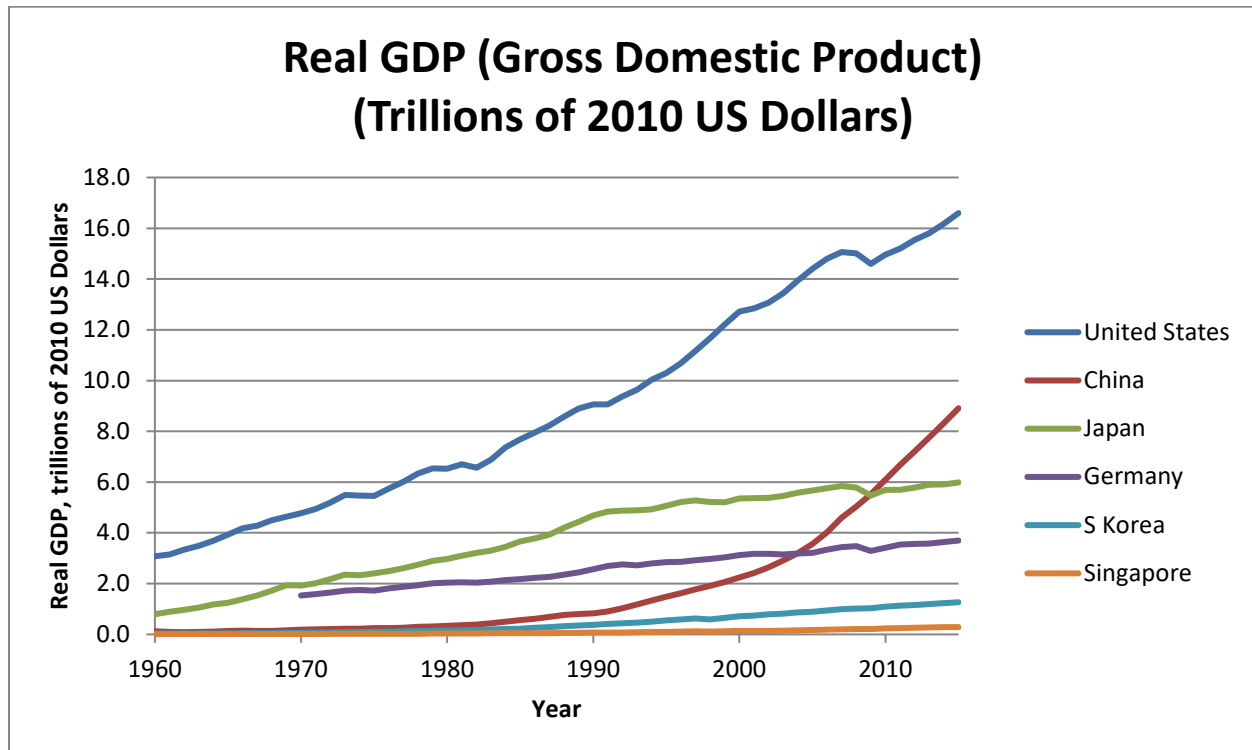
Year	Consumption	Investment	Government	Net Exports
1971	66.4	27.0	13.8	-7.2
1970	67.2	26.0	13.9	-7.1
1969	66.1	28.5	14.0	-8.6
1968	63.3	30.6	14.5	-8.5
1967	66.3	25.5	14.7	-6.5
1966	67.4	24.0	14.0	-5.5
1965	73.4	15.8	14.3	-3.5
1964	73.6	16.2	14.2	-4.0
1963	69.4	23.2	15.4	-8.1
1962	77.8	12.3	16.6	-6.7
1961	75.9	13.1	16.4	-5.3
1960	78.6	11.7	17.2	-7.5
1959	77.1	11.4	17.3	-5.8
1958	74.7	15.4	17.9	-8.1
1957	75.7	18.1	17.4	-11.3
1956	78.9	12.7	18.7	-10.3
1955	77.4	13.7	17.6	-8.7
1954	74.8	14.0	18.0	-6.8
1953	73.5	17.5	19.0	-10.0



Source: Feenstra, Robert C. Robert Inklaar and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table' American Economic Review, 105(10),

Year	Consumption	Investment	Government	Net Exports
2014	34.0	36.6	10.0	19.4
2013	36.4	41.6	11.1	10.9
2012	35.6	43.3	10.0	11.1
2011	35.0	39.3	10.3	15.4
2010	33.3	37.5	11.5	17.7
2009	37.7	37.3	13.6	11.4
2008	38.7	43.4	14.7	3.2
2007	30.6	28.0	12.6	28.9
2006	30.8	27.2	14.7	27.2
2005	35.7	28.6	18.6	17.1
2004	38.9	33.4	18.6	9.2
2003	42.4	26.5	19.8	11.3
2002	37.4	33.4	16.5	12.8
2001	38.0	36.6	16.1	9.3
2000	31.5	41.0	13.2	14.4
1999	36.0	42.2	13.6	8.2
1998	33.1	39.0	12.3	15.6
1997	41.1	61.2	13.0	-15.4
1996	44.4	58.9	13.1	-16.3
1995	50.0	65.6	13.6	-29.1
1994	51.5	63.3	13.4	-28.1
1993	50.1	67.5	14.1	-31.6
1992	40.4	51.7	11.1	-3.2
1991	42.5	51.8	11.9	-6.2
1990	36.8	45.5	10.2	7.6
1989	37.7	45.6	11.0	5.7
1988	36.2	43.3	10.9	9.6
1987	35.4	48.5	12.6	3.5
1986	36.0	50.4	14.0	-0.4
1985	35.4	57.2	13.7	-6.3
1984	33.7	62.8	10.8	-7.3
1983	34.5	63.0	11.2	-8.8
1982	33.5	59.1	10.6	-3.3
1981	29.8	47.1	8.6	14.4
1980	29.7	45.9	8.5	15.9
1979	32.9	46.5	9.0	11.6
1978	37.3	48.1	11.0	3.5
1977	37.8	44.1	10.7	7.4
1976	37.6	48.9	10.4	3.1
1975	38.3	49.4	10.7	1.6

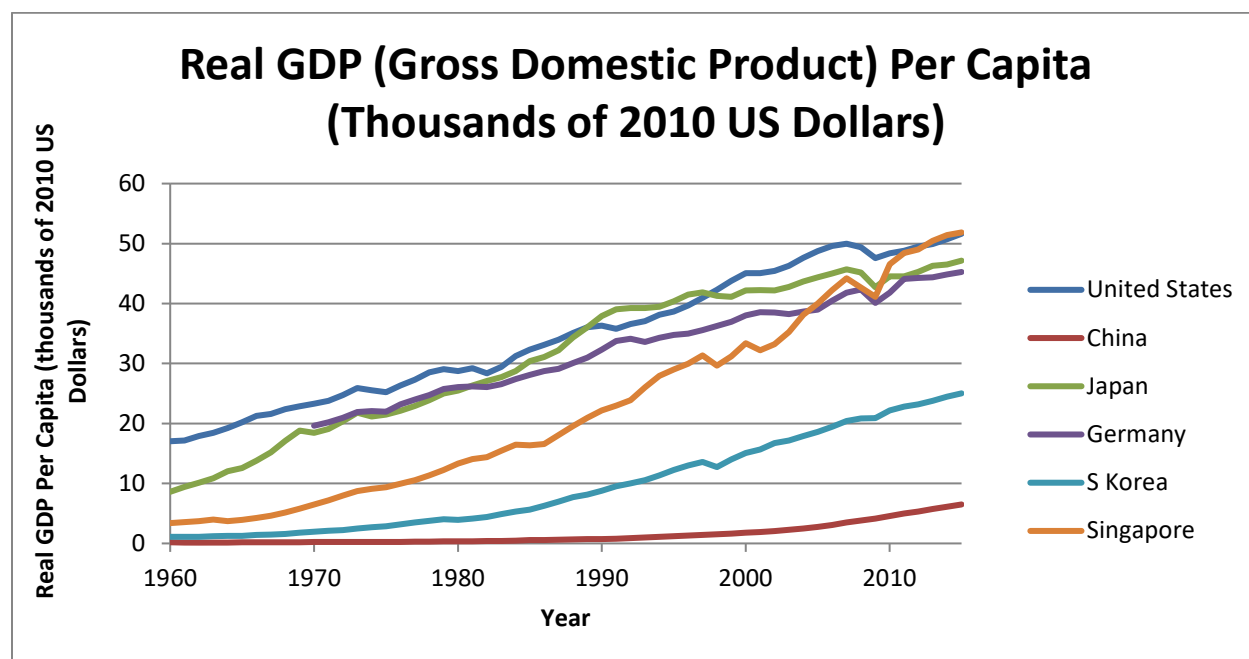
Year	Consumption	Investment	Government	Net Exports
1974	38.3	53.7	10.6	-2.5
1973	42.3	50.9	12.4	-5.6
1972	44.1	52.4	13.2	-9.6
1971	46.7	54.8	13.1	-14.7
1970	49.4	54.2	13.1	-16.7
1969	55.1	49.2	13.3	-17.5
1968	60.3	42.6	12.6	-15.6
1967	62.4	42.1	12.1	-16.7
1966	67.4	40.0	12.8	-20.3
1965	74.2	42.3	13.0	-29.5
1964	77.0	37.5	12.6	-27.1
1963	84.6	43.1	12.8	-40.5
1962	99.4	34.3	13.4	-47.1
1961	119.7	40.5	15.2	-75.4
1960	126.4	49.7	14.0	-90.1



Source: World Development Indicators, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
1960	3.1	0.1	0.8		0.0	0.0
1961	3.1	0.1	0.9		0.0	0.0
1962	3.3	0.1	1.0		0.0	0.0
1963	3.5	0.1	1.1		0.0	0.0
1964	3.7	0.1	1.2		0.0	0.0
1965	3.9	0.1	1.2		0.0	0.0
1966	4.2	0.1	1.4		0.0	0.0
1967	4.3	0.1	1.5		0.0	0.0
1968	4.5	0.1	1.7		0.0	0.0
1969	4.6	0.2	1.9		0.1	0.0
1970	4.8	0.2	1.9	1.5	0.1	0.0
1971	4.9	0.2	2.0	1.6	0.1	0.0
1972	5.2	0.2	2.2	1.7	0.1	0.0
1973	5.5	0.2	2.4	1.7	0.1	0.0
1974	5.5	0.2	2.3	1.7	0.1	0.0
1975	5.5	0.2	2.4	1.7	0.1	0.0
1976	5.7	0.2	2.5	1.8	0.1	0.0
1977	6.0	0.3	2.6	1.9	0.1	0.0
1978	6.3	0.3	2.7	1.9	0.1	0.0
1979	6.5	0.3	2.9	2.0	0.2	0.0
1980	6.5	0.3	3.0	2.0	0.1	0.0
1981	6.7	0.4	3.1	2.1	0.2	0.0
1982	6.6	0.4	3.2	2.0	0.2	0.0
1983	6.9	0.4	3.3	2.1	0.2	0.0
1984	7.4	0.5	3.5	2.1	0.2	0.0
1985	7.7	0.6	3.7	2.2	0.2	0.0
1986	8.0	0.6	3.8	2.2	0.3	0.0
1987	8.2	0.7	3.9	2.3	0.3	0.1
1988	8.6	0.8	4.2	2.3	0.3	0.1
1989	8.9	0.8	4.4	2.4	0.3	0.1
1990	9.1	0.8	4.7	2.6	0.4	0.1
1991	9.1	0.9	4.8	2.7	0.4	0.1
1992	9.4	1.0	4.9	2.8	0.4	0.1
1993	9.6	1.2	4.9	2.7	0.5	0.1
1994	10.0	1.3	4.9	2.8	0.5	0.1
1995	10.3	1.5	5.1	2.8	0.6	0.1
1996	10.7	1.6	5.2	2.9	0.6	0.1
1997	11.2	1.8	5.3	2.9	0.6	0.1
1998	11.7	1.9	5.2	3.0	0.6	0.1
1999	12.2	2.1	5.2	3.0	0.7	0.1
2000	12.7	2.2	5.3	3.1	0.7	0.1
2001	12.8	2.4	5.4	3.2	0.7	0.1

Year	United States	China	Japan	Germany	South Korea	Singapore
2002	13.1	2.6	5.4	3.2	0.8	0.1
2003	13.4	2.9	5.5	3.2	0.8	0.1
2004	13.9	3.2	5.6	3.2	0.9	0.2
2005	14.4	3.6	5.7	3.2	0.9	0.2
2006	14.8	4.0	5.8	3.3	0.9	0.2
2007	15.1	4.6	5.8	3.4	1.0	0.2
2008	15.0	5.0	5.8	3.5	1.0	0.2
2009	14.6	5.5	5.5	3.3	1.0	0.2
2010	15.0	6.1	5.7	3.4	1.1	0.2
2011	15.2	6.7	5.7	3.5	1.1	0.3
2012	15.5	7.2	5.8	3.6	1.2	0.3
2013	15.8	7.8	5.9	3.6	1.2	0.3
2014	16.2	8.3	5.9	3.6	1.2	0.3
2015	16.6	8.9	6.0	3.7	1.3	0.3



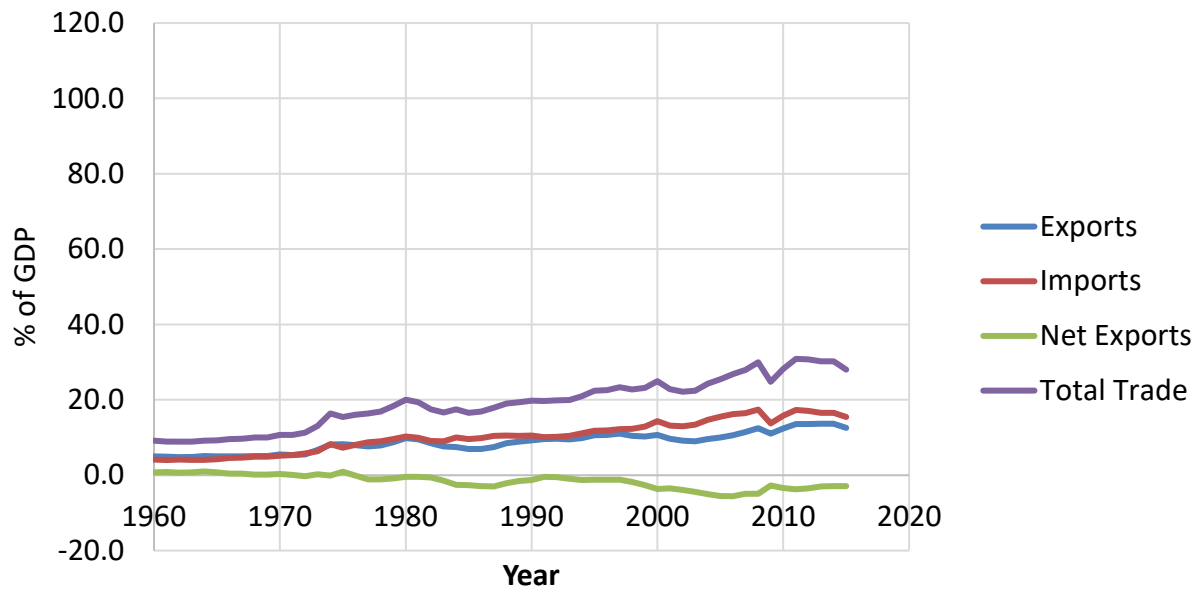
Source: World Development Indicators, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2015	52	6	47	45	25	52
2014	51	6	47	45	24	51
2013	50	6	46	44	24	50
2012	49	5	45	44	23	49

Year	United States	China	Japan	Germany	South Korea	Singapore
2011	49	5	45	44	23	48
2010	48	5	45	42	22	47
2009	48	4	43	40	21	41
2008	49	4	45	42	21	43
2007	50	3	46	42	20	44
2006	50	3	45	40	19	42
2005	49	3	44	39	19	40
2004	48	2	44	39	18	38
2003	46	2	43	38	17	35
2002	45	2	42	39	17	33
2001	45	2	42	39	16	32
2000	45	2	42	38	15	33
1999	44	2	41	37	14	31
1998	42	2	41	36	13	30
1997	41	1	42	36	14	31
1996	40	1	42	35	13	30
1995	39	1	40	35	12	29
1994	38	1	39	34	11	28
1993	37	1	39	34	11	26
1992	37	1	39	34	10	24
1991	36	1	39	34	10	23
1990	36	1	38	32	9	22
1989	36	1	36	31	8	21
1988	35	1	34	30	8	20
1987	34	1	32	29	7	18
1986	33	1	31	29	6	17
1985	32	1	30	28	6	16
1984	31	0	29	27	5	16
1983	29	0	28	27	5	15
1982	28	0	27	26	4	14
1981	29	0	26	26	4	14
1980	29	0	25	26	4	13
1979	29	0	25	26	4	12
1978	29	0	24	25	4	11
1977	27	0	23	24	3	11
1976	26	0	22	23	3	10
1975	25	0	21	22	3	9
1974	26	0	21	22	3	9
1973	26	0	22	22	3	9

Year	United States	China	Japan	Germany	South Korea	Singapore
1972	25	0	20	21	2	8
1971	24	0	19	20	2	7
1970	23	0	18	20	2	7
1969	23	0	19		2	6
1968	22	0	17		2	5
1967	22	0	15		1	5
1966	21	0	14		1	4
1965	20	0	13		1	4
1964	19	0	12		1	4
1963	18	0	11		1	4
1962	18	0	10		1	4
1961	17	0	9		1	4
1960	17	0	9		1	3

Trade as % of GDP UNITED STATES

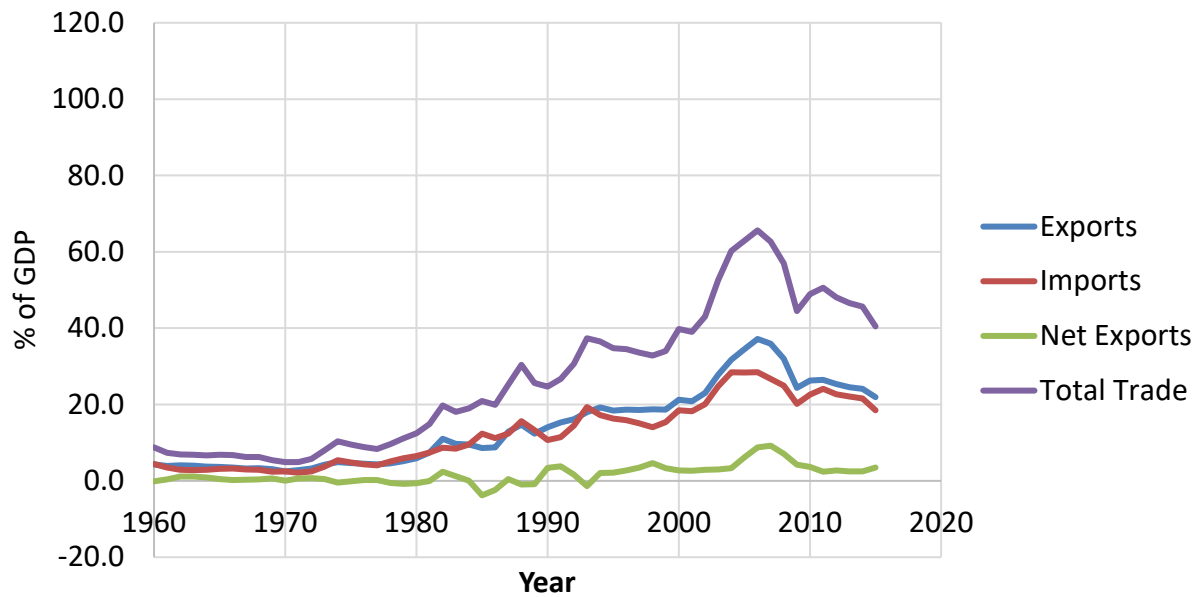


Source: World Development Index, World Bank

Year	Exports	Imports	Net Exports	Total Trade
2015	12.6	15.4	-2.9	28
2014	13.7	16.6	-2.9	30
2013	13.6	16.6	-2.9	30
2012	13.6	17.1	-3.5	31
2011	13.6	17.3	-3.7	31
2010	12.4	15.8	-3.4	28
2009	11.0	13.8	-2.7	25
2008	12.5	17.4	-4.9	30
2007	11.5	16.5	-5.0	28
2006	10.7	16.2	-5.6	27
2005	10.0	15.5	-5.5	26
2004	9.6	14.7	-5.0	24
2003	9.0	13.4	-4.4	22
2002	9.1	13.0	-3.9	22
2001	9.7	13.1	-3.5	23
2000	10.7	14.3	-3.7	25
1999	10.3	12.9	-2.7	23
1998	10.5	12.3	-1.8	23
1997	11.1	12.3	-1.2	23
1996	10.7	11.9	-1.2	23

Year	Exports	Imports	Net Exports	Total Trade
1995	10.6	11.8	-1.2	22
1994	9.9	11.1	-1.3	21
1993	9.5	10.5	-0.9	20
1992	9.7	10.2	-0.5	20
1991	9.6	10.1	-0.5	20
1990	9.2	10.5	-1.3	20
1989	8.9	10.4	-1.5	19
1988	8.5	10.5	-2.1	19
1987	7.5	10.4	-3.0	18
1986	7.0	9.9	-2.9	17
1985	7.0	9.6	-2.6	17
1984	7.5	10.0	-2.5	18
1983	7.6	9.0	-1.4	17
1982	8.5	9.1	-0.6	18
1981	9.5	9.9	-0.4	19
1980	9.8	10.3	-0.5	20
1979	8.7	9.6	-0.9	18
1978	7.9	9.0	-1.1	17
1977	7.6	8.7	-1.1	16
1976	8.0	8.1	-0.1	16
1975	8.2	7.3	0.9	15
1974	8.2	8.2	-0.1	16
1973	6.7	6.4	0.3	13
1972	5.5	5.8	-0.3	11
1971	5.4	5.3	0.1	11
1970	5.5	5.2	0.4	11
1969	5.1	5.0	0.1	10
1968	5.1	4.9	0.1	10
1967	5.0	4.6	0.4	10
1966	5.0	4.6	0.5	10
1965	5.0	4.2	0.8	9
1964	5.1	4.1	1.0	9
1963	4.9	4.1	0.8	9
1962	4.8	4.1	0.7	9
1961	4.9	4.0	0.9	9
1960	5.0	4.2	0.8	9

Trade as % of GDP CHINA

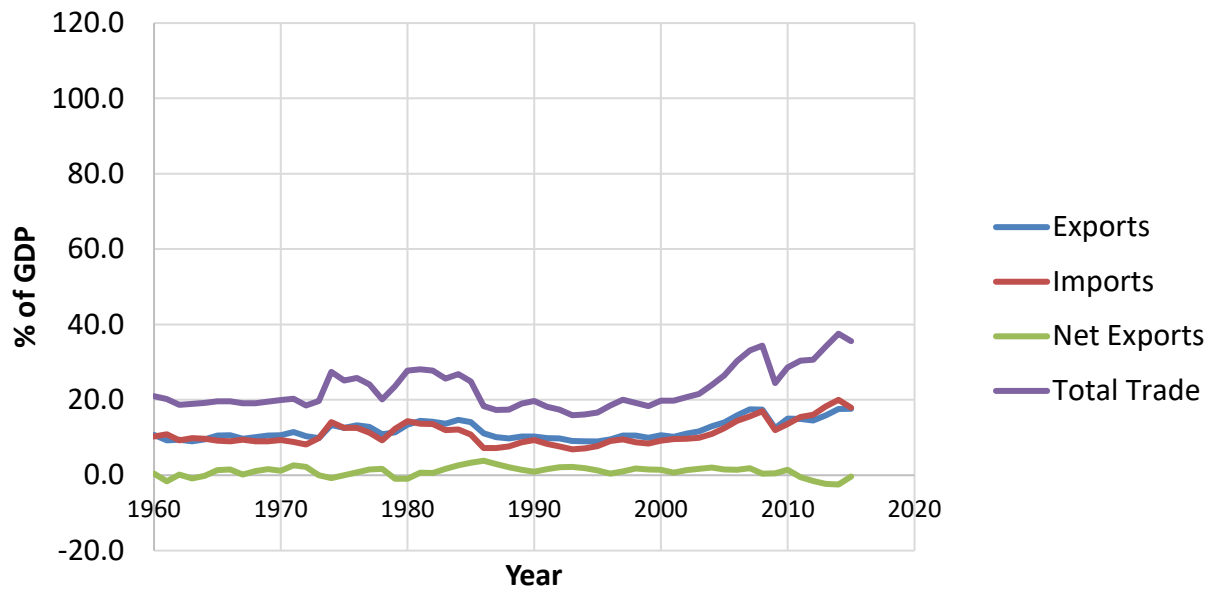


Source: World Development Index, World Bank

Year	Exports	Imports	Net Exports	Total Trade
2015	22.0	18.5	3.5	40
2014	24.1	21.6	2.5	46
2013	24.5	22.1	2.4	47
2012	25.4	22.7	2.7	48
2011	26.5	24.1	2.4	51
2010	26.3	22.6	3.6	49
2009	24.4	20.1	4.2	45
2008	32.0	24.9	7.1	57
2007	35.9	26.7	9.2	63
2006	37.2	28.4	8.7	66
2005	34.5	28.4	6.1	63
2004	31.8	28.4	3.3	60
2003	27.8	24.8	3.0	53
2002	23.0	20.1	2.9	43
2001	20.8	18.2	2.6	39
2000	21.2	18.5	2.7	40
1999	18.7	15.4	3.3	34
1998	18.8	14.1	4.7	33
1997	18.5	15.0	3.5	34
1996	18.6	15.9	2.8	35

Year	Exports	Imports	Net Exports	Total Trade
1995	18.4	16.3	2.1	35
1994	19.3	17.2	2.1	37
1993	18.0	19.4	-1.4	37
1992	16.1	14.5	1.6	31
1991	15.3	11.5	3.8	27
1990	14.0	10.7	3.4	25
1989	12.4	13.3	-0.9	26
1988	14.7	15.7	-0.9	30
1987	12.9	12.4	0.5	25
1986	8.8	11.2	-2.4	20
1985	8.6	12.4	-3.8	21
1984	9.5	9.5	0.0	19
1983	9.7	8.4	1.3	18
1982	11.1	8.7	2.4	20
1981	7.4	7.4	0.0	15
1980	5.9	6.5	-0.6	12
1979	5.2	5.9	-0.8	11
1978	4.6	5.1	-0.5	10
1977	4.3	4.1	0.2	8
1976	4.5	4.3	0.2	9
1975	4.7	4.8	-0.1	10
1974	4.9	5.4	-0.5	10
1973	4.2	3.8	0.5	8
1972	3.2	2.5	0.7	6
1971	2.8	2.1	0.7	5
1970	2.5	2.5	0.0	5
1969	3.0	2.4	0.6	5
1968	3.3	2.9	0.4	6
1967	3.3	3.0	0.3	6
1966	3.5	3.2	0.3	7
1965	3.6	3.2	0.4	7
1964	3.8	2.9	0.9	7
1963	4.0	2.9	1.1	7
1962	4.1	2.9	1.1	7
1961	3.9	3.5	0.4	7
1960	4.3	4.4	-0.1	9

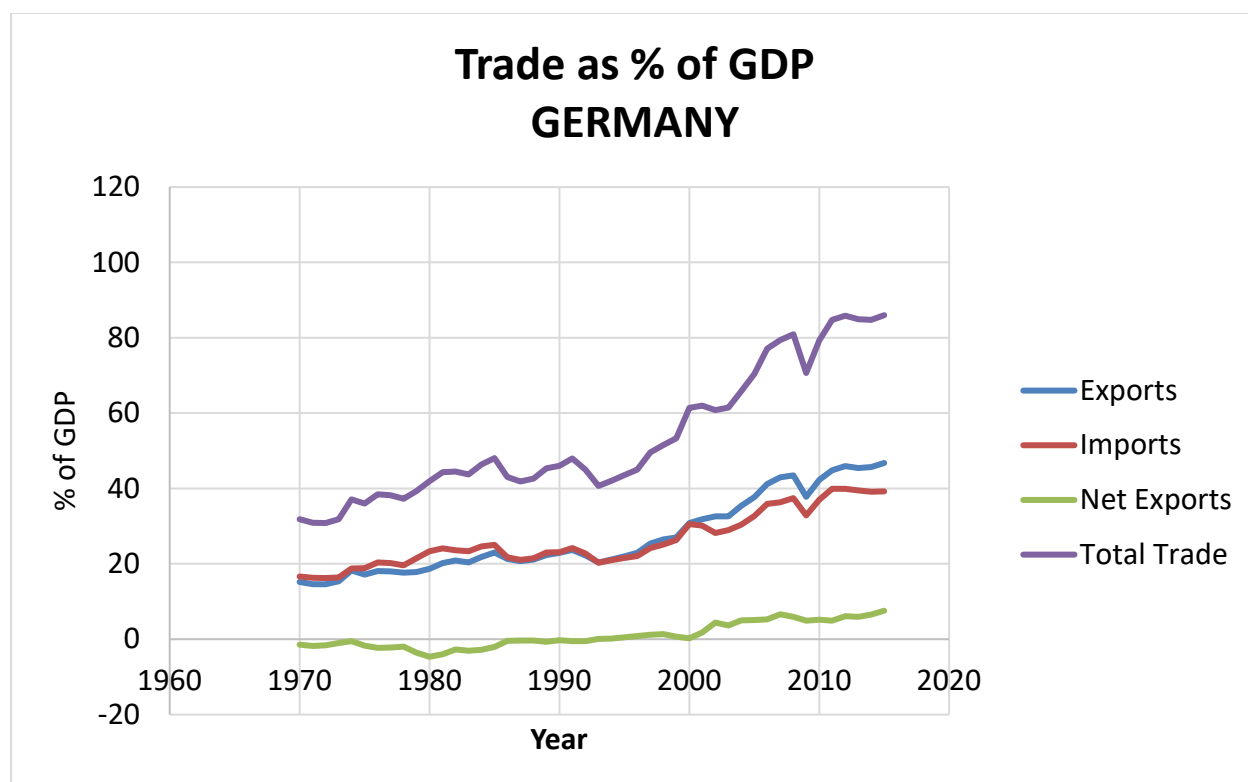
Trade as % of GDP JAPAN



Source: World Development Index, World Bank

Year	Exports	Imports	Net Exports	Total Trade
2015	17.6	18.0	-0.3	36
2014	17.5	20.0	-2.5	38
2013	15.9	18.2	-2.3	34
2012	14.5	16.1	-1.5	31
2011	14.9	15.5	-0.5	30
2010	15.0	13.6	1.5	29
2009	12.5	12.0	0.6	24
2008	17.4	17.0	0.4	34
2007	17.5	15.6	1.9	33
2006	15.9	14.5	1.4	30
2005	14.0	12.5	1.5	27
2004	13.0	11.0	2.0	24
2003	11.6	9.9	1.7	22
2002	11.0	9.7	1.4	21
2001	10.2	9.6	0.7	20
2000	10.6	9.2	1.4	20
1999	10.0	8.4	1.6	18
1998	10.5	8.7	1.8	19
1997	10.5	9.5	1.1	20
1996	9.5	9.0	0.4	19

Year	Exports	Imports	Net Exports	Total Trade
1995	9.0	7.7	1.3	17
1994	9.0	7.1	1.9	16
1993	9.1	6.9	2.2	16
1992	9.8	7.6	2.1	17
1991	9.9	8.3	1.6	18
1990	10.3	9.4	0.9	20
1989	10.2	8.8	1.5	19
1988	9.8	7.6	2.1	17
1987	10.1	7.2	2.9	17
1986	11.1	7.2	3.9	18
1985	14.1	10.8	3.3	25
1984	14.7	12.1	2.6	27
1983	13.6	12.0	1.7	26
1982	14.2	13.6	0.6	28
1981	14.4	13.7	0.7	28
1980	13.4	14.4	-0.9	28
1979	11.3	12.3	-0.9	24
1978	10.9	9.2	1.7	20
1977	12.8	11.3	1.5	24
1976	13.3	12.6	0.7	26
1975	12.5	12.6	0.0	25
1974	13.3	14.1	-0.8	27
1973	9.8	9.9	0.0	20
1972	10.4	8.2	2.2	19
1971	11.5	8.9	2.6	20
1970	10.6	9.4	1.2	20
1969	10.6	9.0	1.6	20
1968	10.1	9.0	1.1	19
1967	9.7	9.4	0.2	19
1966	10.6	9.0	1.5	20
1965	10.5	9.1	1.4	20
1964	9.5	9.7	-0.2	19
1963	9.0	9.9	-0.8	19
1962	9.4	9.3	0.1	19
1961	9.3	10.9	-1.6	20
1960	10.7	10.3	0.4	21

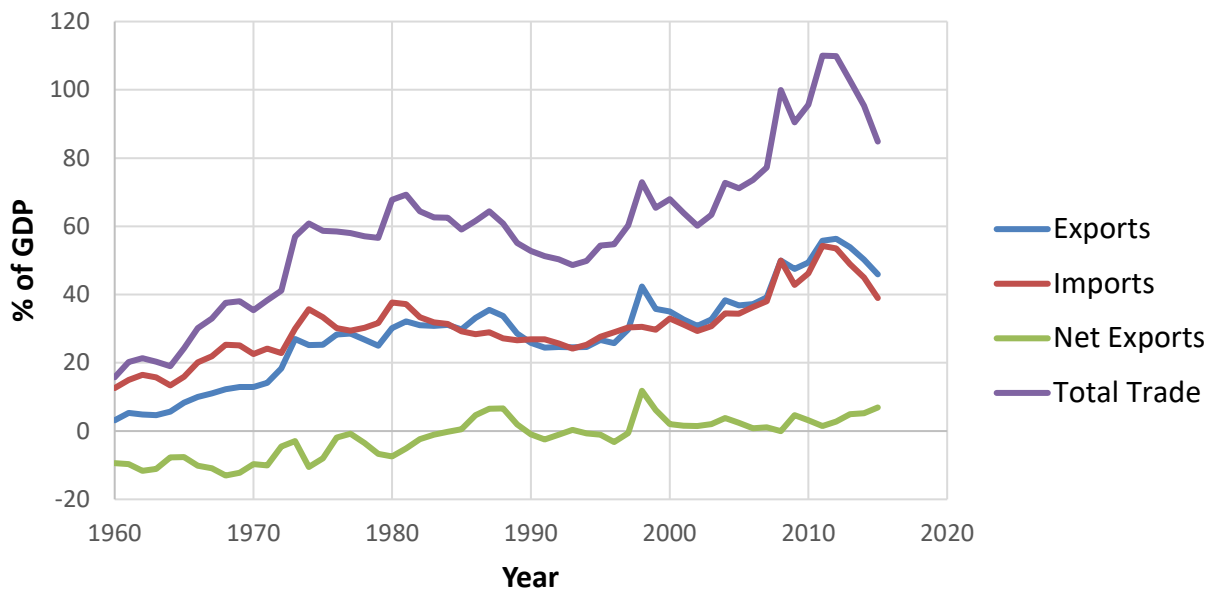


Source: World Development Index, World Bank

Year	Exports	Imports	Net Exports	Total Trade
2015	47	39	7.6	86
2014	46	39	6.5	85
2013	45	39	6.0	85
2012	46	40	6.1	86
2011	45	40	4.9	85
2010	42	37	5.2	79
2009	38	33	4.9	71
2008	43	37	6.0	81
2007	43	36	6.6	79
2006	41	36	5.3	77
2005	38	33	5.1	70
2004	35	30	5.0	66
2003	33	29	3.7	62
2002	33	28	4.4	61
2001	32	30	1.8	62
2000	31	31	0.3	61
1999	27	26	0.7	53
1998	26	25	1.3	52
1997	25	24	1.2	50
1996	23	22	0.8	45

Year	Exports	Imports	Net Exports	Total Trade
1995	22	22	0.5	44
1994	21	21	0.2	42
1993	20	20	0.1	41
1992	22	23	-0.5	45
1991	24	24	-0.5	48
1990	23	23	-0.2	46
1989	22	23	-0.6	45
1988	21	22	-0.4	43
1987	21	21	-0.3	42
1986	21	22	-0.4	43
1985	23	25	-2.1	48
1984	22	25	-2.8	46
1983	20	23	-3.0	44
1982	21	24	-2.7	45
1981	20	24	-4.0	44
1980	19	23	-4.6	42
1979	18	21	-3.6	39
1978	18	20	-1.9	37
1977	18	20	-2.2	38
1976	18	20	-2.3	38
1975	17	19	-1.7	36
1974	18	19	-0.5	37
1973	15	16	-1.0	32
1972	15	16	-1.6	31
1971	15	16	-1.7	31
1970	15	17	-1.5	32

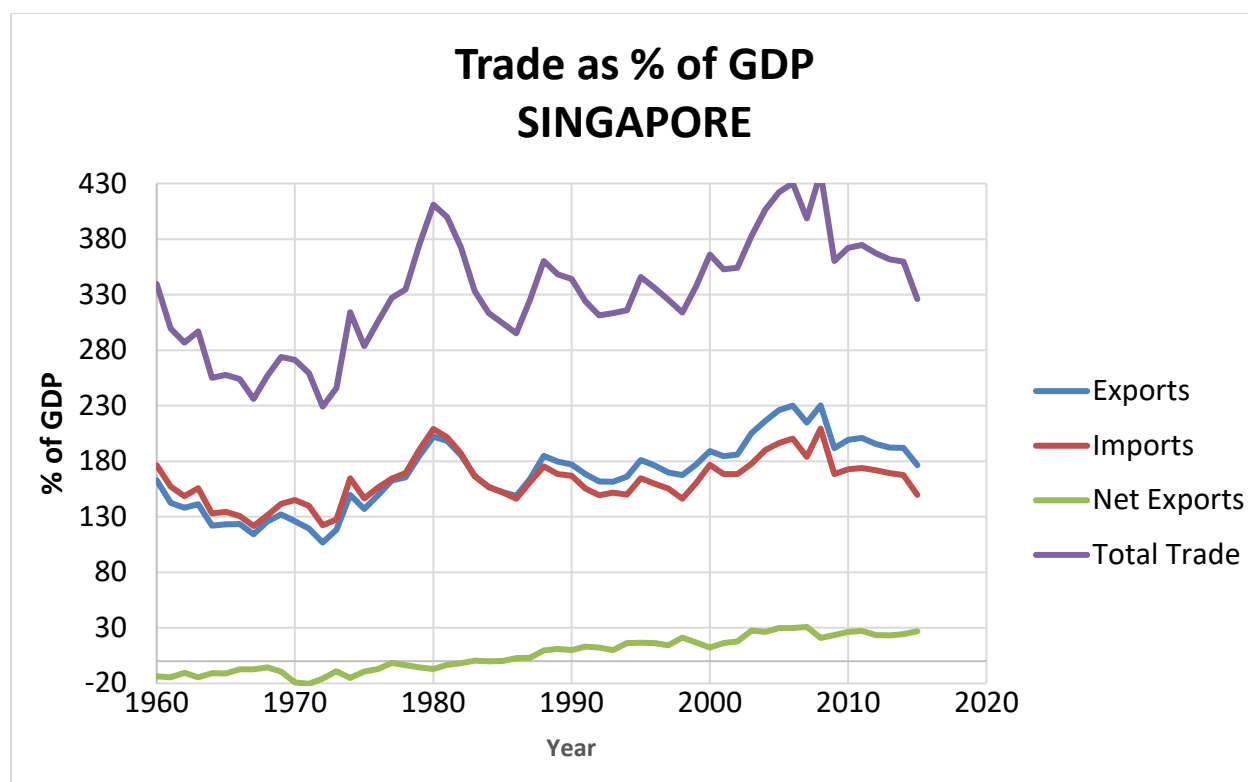
Trade as % of GDP SOUTH KOREA



Source: World Development Index, World Bank

Year	Exports	Imports	Net Exports	Total Trade
2015	46	39	7.0	85
2014	50	45	5.3	95
2013	54	49	5.0	103
2012	56	54	2.8	110
2011	56	54	1.5	110
2010	49	46	3.2	96
2009	48	43	4.7	90
2008	50	50	0.0	100
2007	39	38	1.1	77
2006	37	36	0.8	74
2005	37	34	2.4	71
2004	38	34	3.8	73
2003	33	31	2.0	63
2002	31	29	1.5	60
2001	33	31	1.6	64
2000	35	33	2.1	68
1999	36	30	6.1	65
1998	42	31	11.8	73
1997	30	30	-0.6	60
1996	26	29	-3.2	55

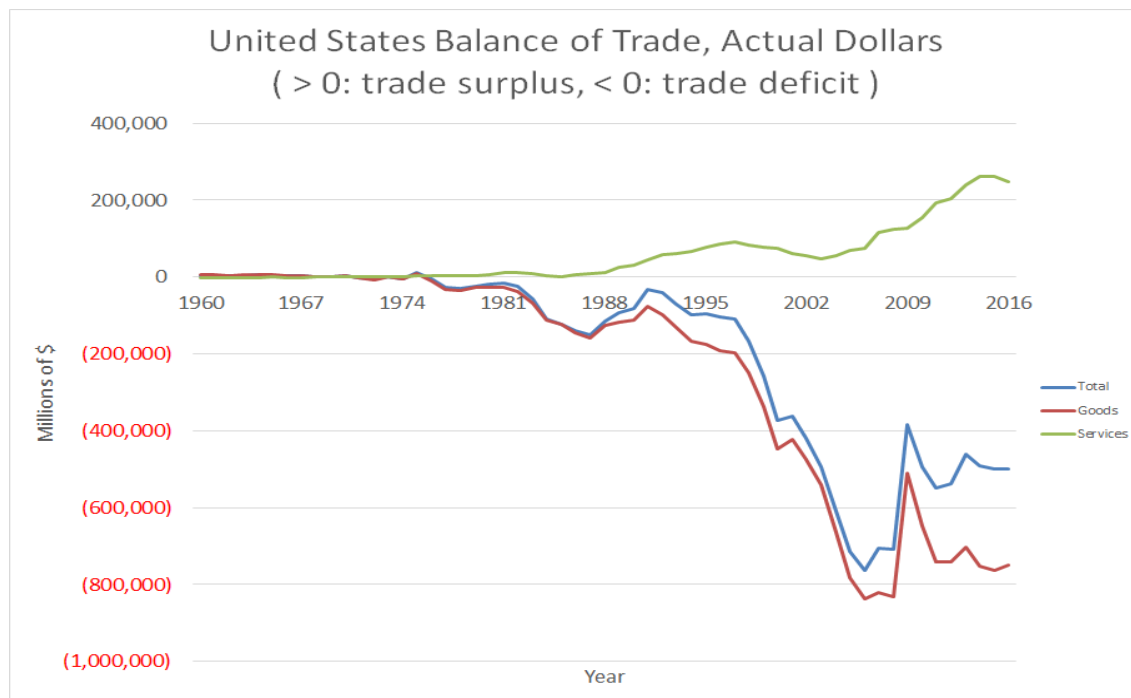
Year	Exports	Imports	Net Exports	Total Trade
1995	27	28	-1.0	54
1994	25	25	-0.7	50
1993	25	24	0.4	49
1992	25	26	-1.1	50
1991	24	27	-2.5	51
1990	26	27	-1.0	53
1989	29	27	1.9	55
1988	34	27	6.6	61
1987	35	29	6.6	64
1986	33	28	4.7	62
1985	30	29	0.6	59
1984	31	31	-0.3	62
1983	31	32	-1.0	63
1982	31	33	-2.4	64
1981	32	37	-5.1	69
1980	30	38	-7.4	68
1979	25	32	-6.6	57
1978	27	30	-3.5	57
1977	29	29	-0.8	58
1976	28	30	-1.9	58
1975	25	33	-8.0	59
1974	25	36	-10.5	61
1973	27	30	-3.0	57
1972	18	23	-4.5	41
1971	14	24	-10.0	38
1970	13	23	-9.6	35
1969	13	25	-12.2	38
1968	12	25	-13.0	38
1967	11	22	-10.9	33
1966	10	20	-10.1	30
1965	8	16	-7.6	24
1964	6	13	-7.7	19
1963	5	16	-11.1	20
1962	5	17	-11.6	21
1961	5	15	-9.7	20
1960	3	13	-9.4	16



Source: World Development Index, World Bank

Year	Exports	Imports	Net Exports	Total Trade
2015	176	150	26.9	326
2014	192	168	24.4	360
2013	192	169	23.1	362
2012	195	172	23.6	367
2011	201	174	27.2	375
2010	199	173	26.4	372
2009	192	168	23.5	360
2008	230	209	20.9	440
2007	215	184	30.8	399
2006	230	200	29.8	430
2005	226	196	29.8	422
2004	216	190	26.4	406
2003	205	178	27.5	383
2002	186	168	17.7	354
2001	184	168	16.2	353
2000	189	177	12.3	366
1999	177	160	16.8	338
1998	168	146	21.3	314
1997	170	155	14.4	325
1996	176	160	16.2	336

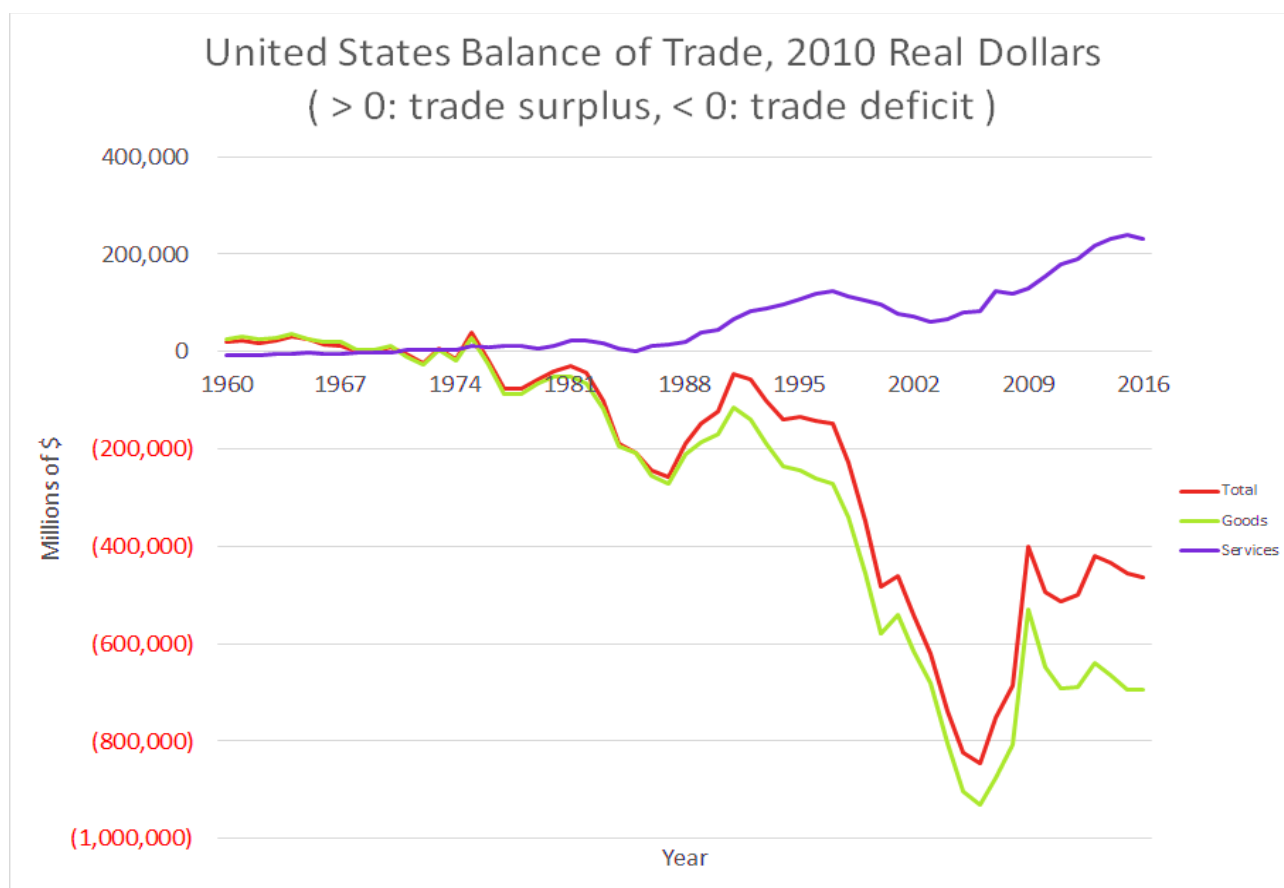
Year	Exports	Imports	Net Exports	Total Trade
1995	181	165	16.7	346
1994	166	150	16.2	316
1993	162	152	9.9	313
1992	162	150	12.1	311
1991	169	155	13.2	324
1990	177	167	10.1	344
1989	180	169	11.0	348
1988	185	175	9.6	360
1987	164	161	3.0	325
1986	149	146	2.6	295
1985	152	152	0.3	304
1984	157	157	-0.2	313
1983	167	166	0.6	333
1982	185	187	-1.8	373
1981	198	202	-3.4	400
1980	202	209	-6.9	411
1979	185	190	-5.7	375
1978	165	169	-3.7	335
1977	163	164	-1.5	327
1976	149	156	-6.9	306
1975	137	146	-9.3	284
1974	150	165	-15.0	314
1973	118	127	-9.1	246
1972	107	122	-15.6	229
1971	120	140	-20.4	259
1970	126	145	-19.0	271
1969	132	142	-9.5	274
1968	126	131	-5.5	257
1967	114	122	-7.4	236
1966	123	131	-7.2	254
1965	123	134	-11.1	258
1964	122	133	-10.9	255
1963	141	156	-14.6	297
1962	138	149	-10.4	287
1961	142	157	-14.6	300
1960	163	177	-13.7	339



United States Balance of Trade, Current Dollars

Period	Balance of Trade (millions of \$)		
	Total	Goods #	Services
2016	(500,560)	(749,926)	249,365
2015	(500,361)	(762,565)	262,203
2014	(490,176)	(752,169)	261,993
2013	(461,876)	(702,244)	240,368
2012	(536,773)	(741,171)	204,398
2011	(548,625)	(740,646)	192,020
2010	(494,658)	(648,678)	154,020
2005	(714,245)	(782,804)	68,558
2000	(372,517)	(446,783)	74,266
1995	(96,384)	(174,170)	77,786
1990	(80,864)	(111,037)	30,173
1985	(121,880)	(122,173)	294
1980	(19,407)	(25,500)	6,093
1975	12,404	8,903	3,501
1970	2,254	2,603	(349)
1965	4,664	4,951	(287)
1960	3,508	4,892	(1,384)

Source: US Census Bureau



Source: U.S. Census Bureau, Economic Indicator Division

NOTE: (1) Data presented on a Balance of Payment (BOP) basis. Information on data sources and methodology are available at <http://www.census.gov/foreign-trade/guide/sec2.html#bop>.

	Balance of Trade (millions of \$)		
Period	Total	Goods #	Services
2016	(464,344)	(695,668)	231,323
2015	(454,989)	(693,417)	238,427
2014	(433,431)	(665,095)	231,664
2013	(420,206)	(638,889)	218,682
2012	(498,452)	(688,258)	189,806
2011	(511,841)	(690,987)	179,145
2010	(494,658)	(648,678)	154,020
2009	(399,579)	(530,685)	131,106
2008	(687,284)	(807,306)	120,021
2007	(751,423)	(874,805)	123,382
2006	(845,566)	(929,458)	83,892
Period	Total	Goods #	Services

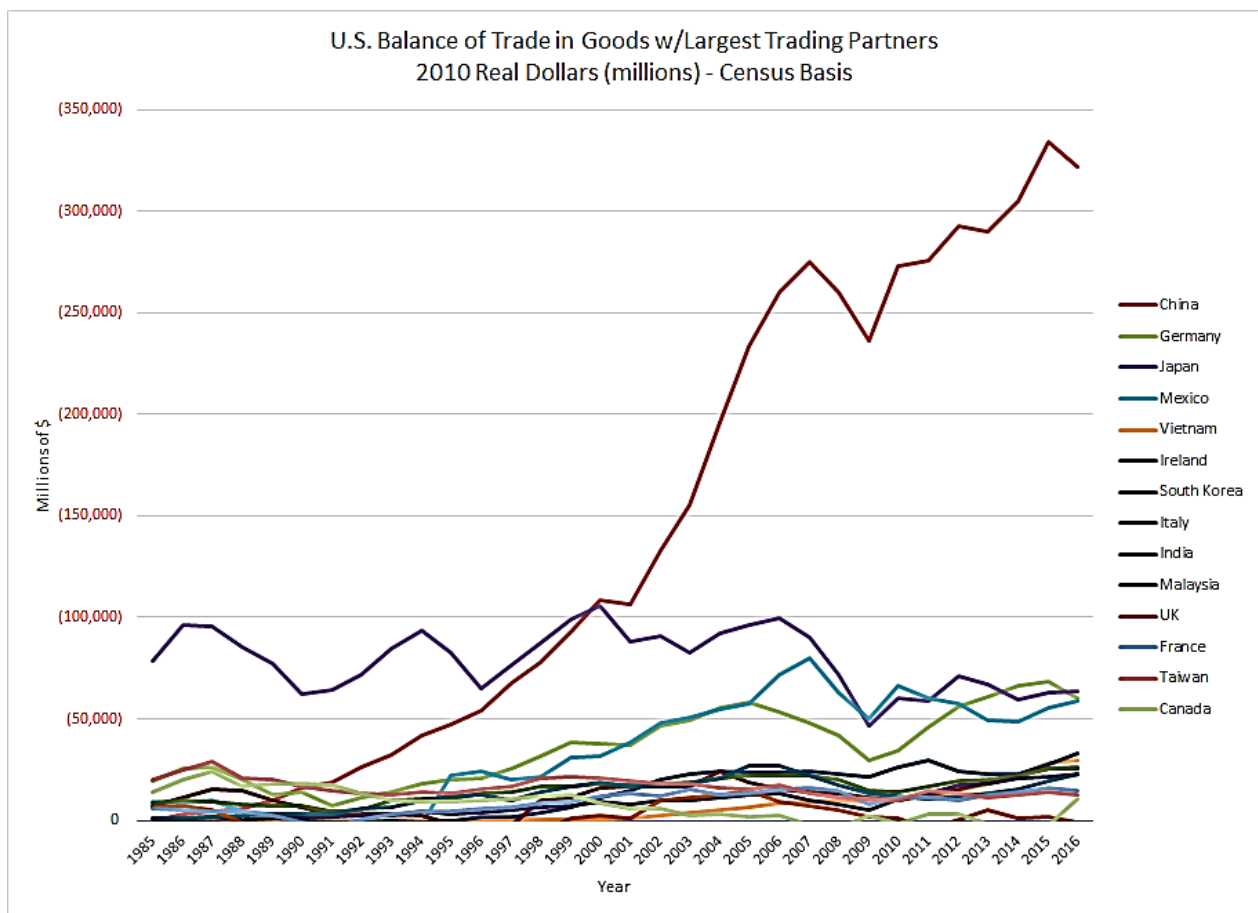
2005	(824,482)	(903,623)	79,139
2004	(737,199)	(803,539)	66,339
2003	(619,953)	(679,895)	59,943
2002	(541,804)	(614,600)	72,796
2001	(461,859)	(539,611)	77,751
2000	(482,444)	(578,626)	96,181
1999	(349,298)	(455,257)	105,958
1998	(227,650)	(340,120)	112,470
1997	(148,020)	(271,271)	123,251
1996	(142,051)	(260,719)	118,668
1995	(134,953)	(243,865)	108,913
1994	(140,313)	(236,243)	95,930
1993	(100,725)	(189,744)	89,021
1992	(56,900)	(140,606)	83,706
1991	(45,960)	(113,571)	67,611
1990	(122,801)	(168,622)	45,821
1989	(146,528)	(185,241)	38,711
1988	(189,361)	(209,845)	20,484
1987	(256,861)	(270,193)	13,334
1986	(242,610)	(254,069)	11,458
1985	(208,159)	(208,659)	502
1984	(187,893)	(193,784)	5,891
1983	(101,858)	(118,318)	16,460
1982	(43,187)	(65,230)	22,042
1981	(29,957)	(51,911)	21,953
1980	(39,229)	(51,546)	12,316
1979	(56,896)	(63,851)	6,955
1978	(75,887)	(86,504)	10,617
1977	(75,241)	(85,859)	10,618
1976	(17,956)	(27,997)	10,041
1975	37,995	27,271	10,724
1974	(14,595)	(18,715)	4,120
1973	7,496	3,594	3,902
1972	(23,262)	(27,421)	4,158
1971	(5,756)	(9,992)	4,235
1970	10,269	11,859	(1,590)
1969	428	2,852	(2,425)
1968	1,219	3,097	(1,878)
1967	13,056	19,053	(5,997)
1966	14,987	19,465	(4,477)
1965	24,479	25,986	(1,506)
Period	Total	Goods #	Services

1964	32,171	36,333	(4,162)
1963	22,558	27,991	(5,433)
1962	18,111	24,297	(6,186)
1961	22,613	30,030	(7,417)
1960	18,797	26,212	(7,416)
Totals in Trillions			
(1960 - 1975)	0.2	0.2	(0.0)
(1976 - 2016)	(12.8)	(16.3)	3.5
(1985 - 2016)	(12.1)	(15.5)	3.4

Source: www.census.gov

Uses balance of payments method

PPI used from FRED to convert to real dollars



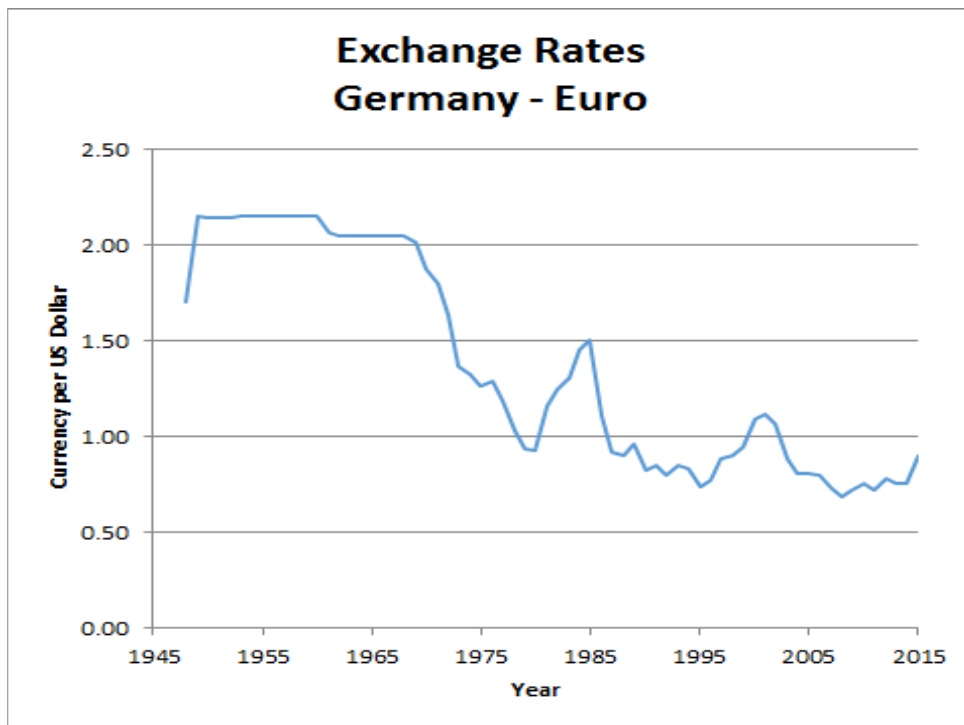
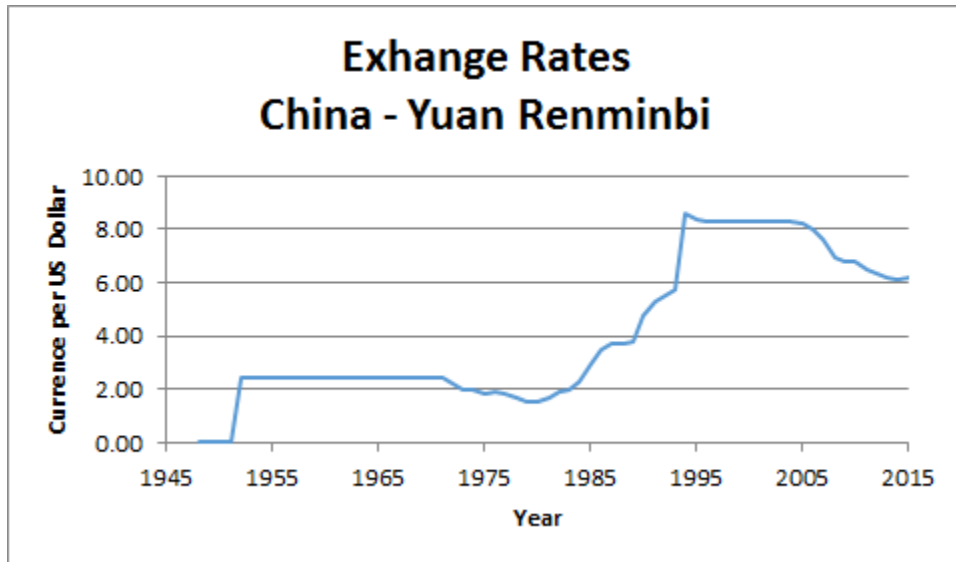
U.S. Balance of Trade in Goods w/Largest Trading Partners														
2010 Real Dollars (millions) - Census Basis														
Year	China	Germany	Japan	Mexico	Vietnam	Ireland	South Korea	Italy	India	Malaysia	UK	France	Taiwan	C
2016	(321,929)	(60,172)	(63,950)	(58,620)	(29,646)	(33,347)	(25,664)	(26,398)	(22,551)	(23,025)	993	(14,679)	(12,308)	(
2015	(333,878)	(68,062)	(62,672)	(55,162)	(28,127)	(27,648)	(25,746)	(25,420)	(21,223)	(19,726)	(1,680)	(16,106)	(13,683)	2
2014	(304,941)	(66,148)	(59,800)	(48,994)	(22,002)	(23,150)	(22,154)	(22,469)	(21,092)	(15,470)	(747)	(13,970)	(12,531)	1
2013	(289,933)	(60,936)	(66,722)	(49,676)	(17,845)	(22,621)	(18,852)	(19,971)	(18,195)	(12,985)	(4,895)	(12,703)	(11,296)	1
2012	(292,607)	(56,109)	(70,998)	(57,312)	(14,528)	(24,125)	(15,430)	(19,378)	(17,093)	(12,181)	(135)	(10,060)	(13,487)	(
2011	(275,454)	(46,079)	(58,896)	(60,255)	(12,289)	(29,587)	(12,315)	(16,734)	(13,633)	(10,741)	4,451	(11,375)	(14,435)	(
2010	(273,042)	(34,295)	(60,080)	(66,321)	(11,162)	(26,572)	(10,055)	(14,294)	(10,284)	(11,821)	(1,395)	(11,386)	(9,797)	1
2009	(236,221)	(29,353)	(46,509)	(49,729)	(9,569)	(21,485)	(11,040)	(14,745)	(4,919)	(13,410)	(1,849)	(8,062)	(10,283)	(
2008	(259,931)	(41,691)	(71,878)	(62,763)	(9,806)	(23,018)	(12,995)	(20,049)	(7,780)	(17,249)	(4,837)	(14,749)	(11,055)	3
2007	(275,382)	(47,665)	(89,807)	(79,679)	(9,300)	(24,148)	(14,020)	(22,241)	(9,699)	(22,316)	(7,325)	(15,848)	(13,262)	2
2006	(259,871)	(53,198)	(99,598)	(71,635)	(8,288)	(23,206)	(15,080)	(22,323)	(13,496)	(26,741)	(8,995)	(15,017)	(17,209)	(
2005	(233,498)	(58,372)	(96,183)	(57,557)	(6,277)	(23,417)	(18,712)	(22,492)	(12,566)	(26,809)	(14,388)	(13,371)	(15,250)	(
2004	(196,126)	(55,421)	(92,151)	(54,600)	(5,040)	(24,050)	(24,152)	(21,047)	(11,438)	(20,946)	(12,537)	(12,919)	(15,760)	(
2003	(155,736)	(49,307)	(82,887)	(51,023)	(4,056)	(22,658)	(16,515)	(18,645)	(10,137)	(18,234)	(11,256)	(15,272)	(17,764)	(
2002	(133,286)	(46,396)	(90,499)	(48,038)	(2,347)	(20,294)	(16,807)	(18,317)	(9,980)	(17,672)	(9,751)	(11,929)	(17,803)	(
2001	(106,162)	(37,154)	(88,181)	(38,380)	(757)	(14,507)	(16,610)	(17,725)	(7,640)	(16,586)	(836)	(13,470)	(19,486)	(
2000	(108,572)	(37,641)	(105,621)	(31,830)	(588)	(11,332)	(16,160)	(18,109)	(9,091)	(18,948)	(2,298)	(12,224)	(20,847)	(
1999	(92,758)	(38,396)	(99,134)	(30,810)	(428)	(6,228)	(11,102)	(16,567)	(7,270)	(16,700)	(1,121)	(9,226)	(21,709)	(
1998	(78,004)	(31,768)	(87,714)	(21,727)	(384)	(3,774)	(10,217)	(16,399)	(6,403)	(13,761)	5,782	(8,615)	(20,499)	(
1997	(67,939)	(25,514)	(76,714)	(19,890)	(139)	(1,674)	2,560	(14,235)	(5,079)	(9,907)	5,149	(6,387)	(16,764)	(
1996	(53,946)	(21,090)	(64,948)	(23,895)	389	(1,549)	5,414	(13,005)	(3,878)	(12,671)	2,708	(5,720)	(15,625)	(
1995	(47,311)	(20,232)	(82,800)	(22,134)	75	42	1,674	(10,483)	(3,403)	(12,096)	2,698	(4,150)	(13,557)	(
1994	(42,033)	(17,829)	(93,551)	1,923	174	748	(2,285)	(10,855)	(4,296)	(9,990)	2,624	(4,388)	(13,672)	(
1993	(32,629)	(13,795)	(85,030)	2,383	10	300	(3,347)	(9,672)	(2,544)	(6,445)	6,744	(2,883)	(12,798)	(

1992	(26,568)	(10,988)	(71,976)	7,809	7	870	(2,965)	(5,214)	(2,703)	(5,705)	3,928	(297)	(13,561)	(
1991	(18,734)	(7,136)	(64,043)	3,170	0	1,082	(2,234)	(4,715)	(1,761)	(3,250)	5,363	2,971	(14,526)	(
1990	(15,841)	(14,278)	(62,422)	(2,852)	0	1,191	(6,198)	(7,228)	(1,079)	(2,805)	5,015	776	(16,971)	(
Year	China	Germany	Japan	Mexico	Vietnam	Ireland	South Korea	Italy	India	Malaysia	UK	France	Taiwan	C
1989	(9,808)	(12,538)	(77,178)	(3,430)	0	1,443	(9,876)	(7,422)	(1,348)	(2,948)	3,961	(2,256)	(20,417)	(
1988	(5,767)	(19,858)	(85,607)	(4,349)	0	1,336	(14,666)	(7,935)	(726)	(2,562)	641	(4,197)	(20,801)	(
1987	(4,735)	(25,946)	(95,383)	(9,633)	0	1,183	(15,051)	(9,330)	(1,803)	(1,735)	(5,465)	(4,719)	(29,141)	(
1986	(2,915)	(25,503)	(96,369)	(8,598)	0	755	(11,163)	(10,103)	(1,308)	(1,210)	(6,966)	(5,101)	(24,984)	(
1985	(10)	(19,110)	(78,823)	(9,388)	0	753	(6,929)	(8,622)	(1,115)	(1,299)	(6,258)	(5,784)	(19,976)	(
Total	(4.6)	(1.2)	(2.5)	(1.1)	(0.2)	(0.4)	(0.4)	(0.5)	(0.3)	(0.4)	(0.1)	(0.3)	(0.5)	(
Trillions														

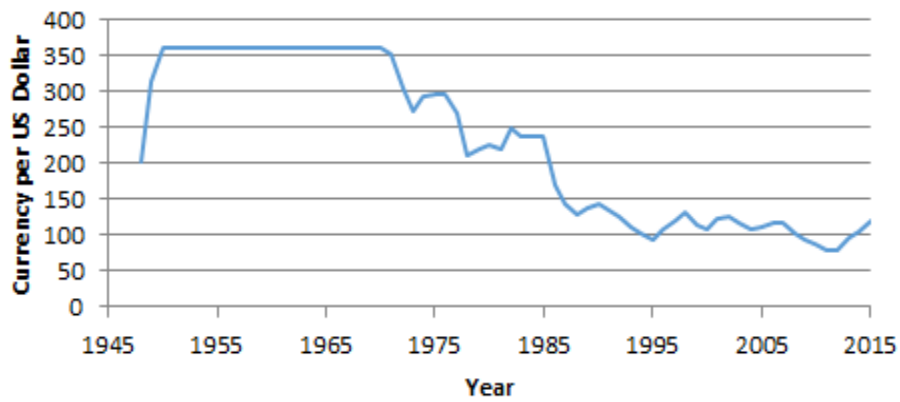
Sources: US Census Bureau

Producer Price Index: Bureau of Labor Statistics

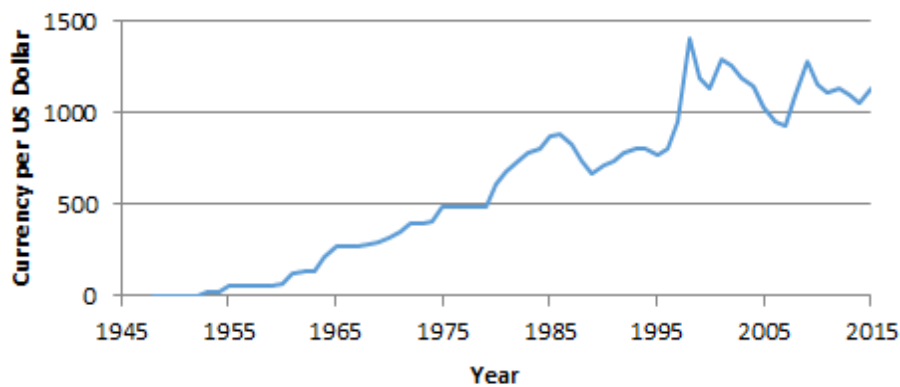
Appendix B: Financial Data

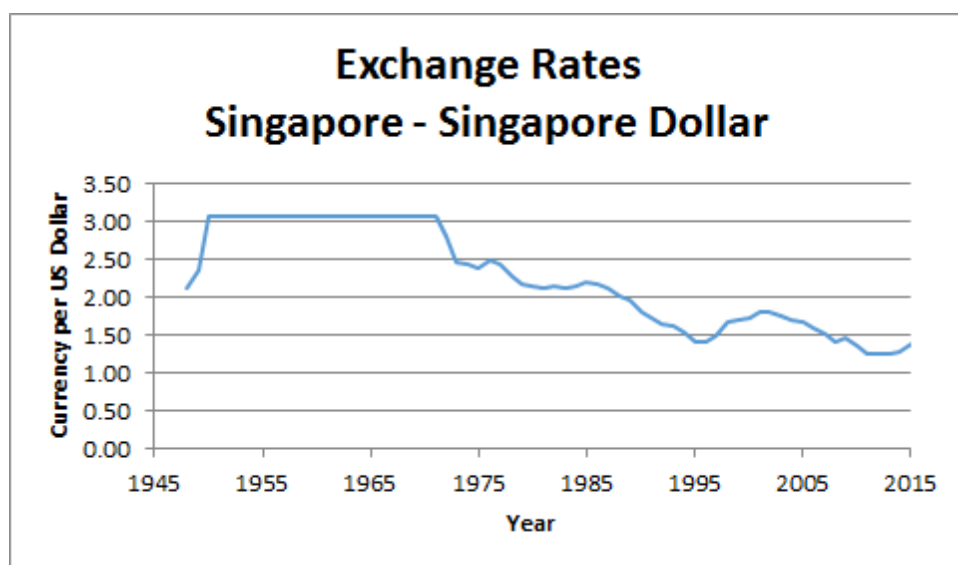


Exchange Rates Japan - Yen



Exchange Rates South Korea - Won



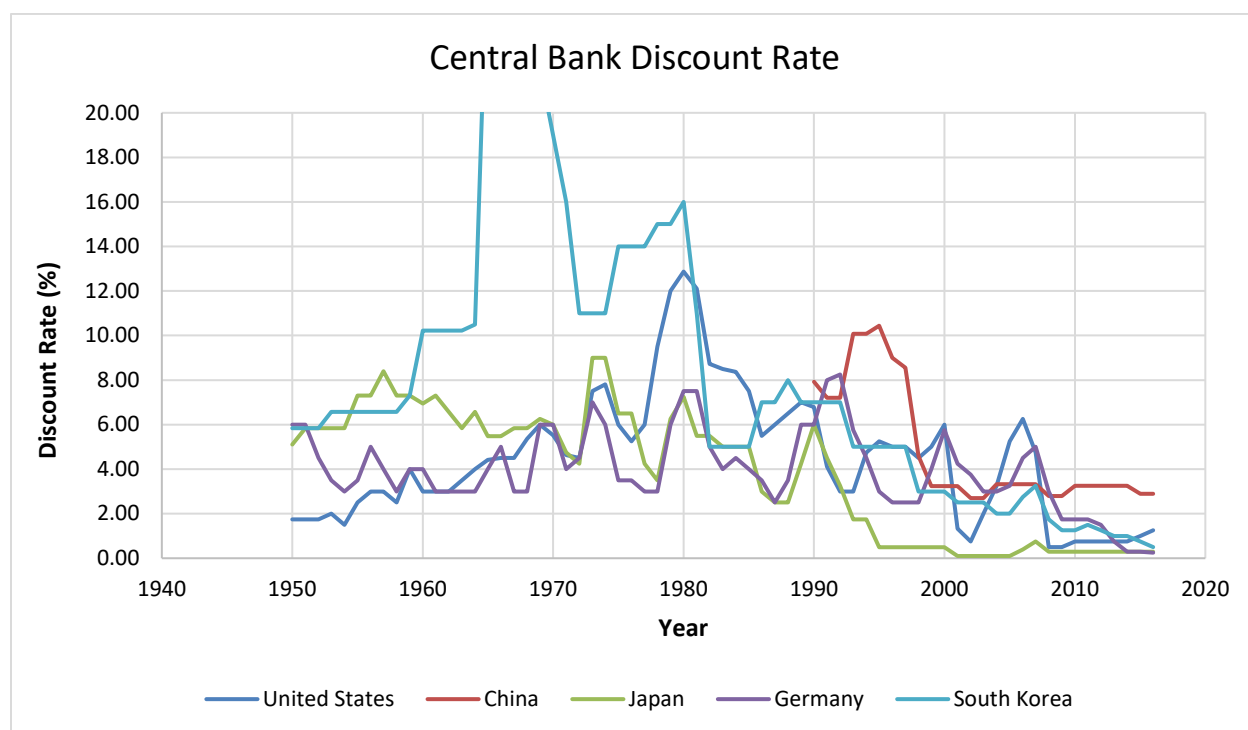


Source: Feenstra, Robert C. Robert Inklaar and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table' American Economic Review, 105(10), 3150-3182, available for download at www.ggdc.net/pwt

	United States	China	Japan	Germany	South Korea	Singapore
Year	US Dollar	Yuan Renminbi	Yen	Euro	Won	Singapore Dollar
2017	1	6.9	113	0.94	1134	1.41
2016	1	6.64	109	0.90	1160	1.38
2015	1	6.23	121	0.90	1131	1.37
2014	1	6.14	106	0.75	1053	1.27
2013	1	6.20	98	0.75	1095	1.25
2012	1	6.31	80	0.78	1126	1.25
2011	1	6.46	80	0.72	1108	1.26
2010	1	6.77	88	0.76	1156	1.36
2009	1	6.83	94	0.72	1277	1.45
2008	1	6.95	103	0.68	1102	1.41
2007	1	7.61	118	0.73	929	1.51
2006	1	7.97	116	0.80	955	1.59
2005	1	8.19	110	0.80	1024	1.66
2004	1	8.28	108	0.81	1145	1.69
2003	1	8.28	116	0.89	1192	1.74
2002	1	8.28	125	1.06	1251	1.79
2001	1	8.28	122	1.12	1291	1.79
2000	1	8.28	108	1.09	1131	1.72
1999	1	8.28	114	0.94	1189	1.69
1998	1	8.28	131	0.90	1401	1.67

	United States	China	Japan	Germany	South Korea	Singapore
Year	US Dollar	Yuan Renminbi	Yen	Euro	Won	Singapore Dollar
1997	1	8.29	121	0.89	951	1.48
1996	1	8.31	109	0.77	804	1.41
1995	1	8.35	94	0.73	771	1.42
1994	1	8.62	102	0.83	803	1.53
1993	1	5.76	111	0.85	803	1.62
1992	1	5.51	127	0.80	781	1.63
1991	1	5.32	135	0.85	733	1.73
1990	1	4.78	145	0.83	708	1.81
1989	1	3.77	138	0.96	671	1.95
1988	1	3.72	128	0.90	731	2.01
1987	1	3.72	145	0.92	823	2.11
1986	1	3.45	169	1.11	881	2.18
1985	1	2.94	239	1.51	870	2.20
1984	1	2.32	238	1.46	806	2.13
1983	1	1.98	238	1.31	776	2.11
1982	1	1.89	249	1.24	731	2.14
1981	1	1.70	221	1.16	681	2.11
1980	1	1.50	227	0.93	607	2.14
1979	1	1.56	219	0.94	484	2.17
1978	1	1.68	210	1.03	484	2.27
1977	1	1.86	269	1.19	484	2.44
1976	1	1.94	297	1.29	484	2.47
1975	1	1.86	297	1.26	484	2.37
1974	1	1.96	292	1.32	404	2.44
1973	1	1.99	272	1.37	398	2.46
1972	1	2.25	303	1.63	393	2.81
1971	1	2.46	351	1.79	347	3.05
1970	1	2.46	360	1.87	311	3.06
1969	1	2.46	360	2.02	288	3.06
1968	1	2.46	360	2.05	277	3.06
1967	1	2.46	360	2.05	271	3.06
1966	1	2.46	360	2.05	271	3.06
1965	1	2.46	360	2.05	266	3.06
1964	1	2.46	360	2.05	214	3.06
1963	1	2.46	360	2.05	130	3.06
1962	1	2.46	360	2.05	130	3.06
1961	1	2.46	360	2.06	125	3.06
1960	1	2.46	360	2.15	63	3.06

	United States	China	Japan	Germany	South Korea	Singapore
Year	US Dollar	Yuan Renminbi	Yen	Euro	Won	Singapore Dollar
1959	1	2.46	360	2.15	50	3.06
1958	1	2.46	360	2.15	50	3.06
1957	1	2.46	360	2.15	50	3.06
1956	1	2.46	360	2.15	50	3.06
1955	1	2.46	360	2.15	49	3.06
1954	1	2.46	360	2.15	18	3.06
1953	1	2.46	360	2.15	18	3.06
1952	1	2.46	361	2.14		3.06
1951	1		361	2.14		3.06
1950	1		361	2.14		3.06
1949	1		314	2.15		2.36
1948	1		202	1.70		2.13



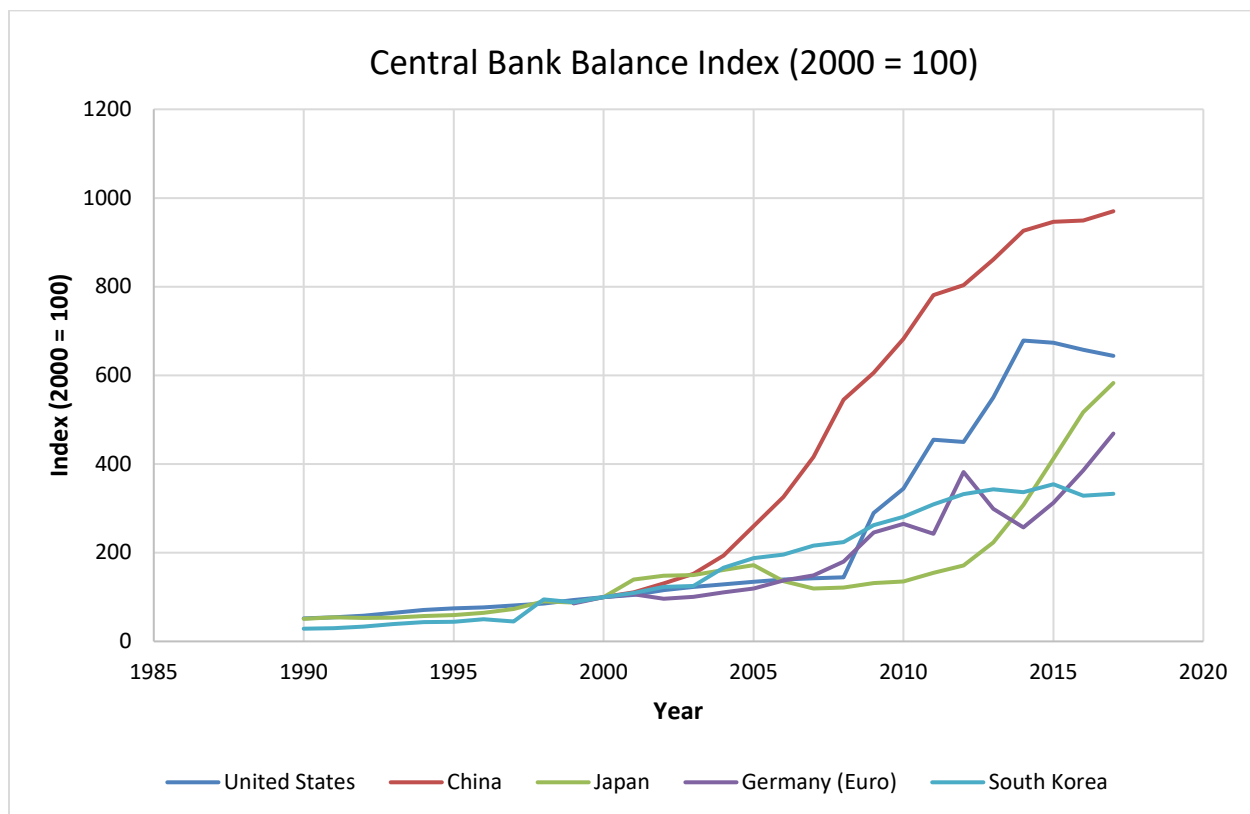
Source: International Financial Statistics (IFS), International Monetary Fund (IMF)

*Note: The Monetary Authority of Singapore, established in 1971, does not control interest rates. They rather influence monetary policy through foreign exchange mechanisms.

Year	United States	China	Japan	Germany	South Korea
2016	1.25	2.90	0.30	0.25	0.50
2015	1.00	2.90	0.30	0.30	0.75
2014	0.75	3.25	0.30	0.30	1.00
2013	0.75	3.25	0.30	0.75	1.00
2012	0.75	3.25	0.30	1.50	1.25
2011	0.75	3.25	0.30	1.75	1.50
2010	0.75	3.25	0.30	1.75	1.25
2009	0.50	2.79	0.30	1.75	1.25
2008	0.50	2.79	0.30	3.00	1.75
2007	4.75	3.33	0.75	5.00	3.25
2006	6.25	3.33	0.40	4.50	2.75
2005	5.25	3.33	0.10	3.25	2.00
2004	3.25	3.33	0.10	3.00	2.00
2003	2.00	2.70	0.10	3.00	2.50
2002	0.75	2.70	0.10	3.75	2.50
2001	1.33	3.24	0.10	4.25	2.50
2000	6.00	3.24	0.50	5.75	3.00
1999	5.00	3.24	0.50	4.00	3.00

Year	United States	China	Japan	Germany	South Korea
1998	4.50	4.59	0.50	2.50	3.00
1997	5.00	8.55	0.50	2.50	5.00
1996	5.00	9.00	0.50	2.50	5.00
1995	5.25	10.44	0.50	3.00	5.00
1994	4.75	10.08	1.75	4.50	5.00
1993	3.00	10.08	1.75	5.75	5.00
1992	3.00	7.20	3.25	8.25	7.00
1991	4.11	7.20	4.50	8.00	7.00
1990	6.79	7.92	6.00	6.00	7.00
1989	7.00		4.25	6.00	7.00
1988	6.50		2.50	3.50	8.00
1987	6.00		2.50	2.50	7.00
1986	5.50		3.00	3.50	7.00
1985	7.50		5.00	4.00	5.00
1984	8.37		5.00	4.50	5.00
1983	8.50		5.00	4.00	5.00
1982	8.73		5.50	5.00	5.00
1981	12.10		5.50	7.50	11.00
1980	12.87		7.25	7.50	16.00
1979	12.00		6.25	6.00	15.00
1978	9.50		3.50	3.00	15.00
1977	6.00		4.25	3.00	14.00
1976	5.25		6.50	3.50	14.00
1975	6.00		6.50	3.50	14.00
1974	7.81		9.00	6.00	11.00
1973	7.50		9.00	7.00	11.00
1972	4.50		4.25	4.50	11.00
1971	4.63		4.75	4.00	16.00
1970	5.52		6.00	6.00	19.00
1969	6.00		6.25	6.00	22.00
1968	5.36		5.84	3.00	23.00
1967	4.50		5.84	3.00	28.00
1966	4.50		5.48	5.00	28.00
1965	4.42		5.48	4.00	28.00
1964	4.00		6.57	3.00	10.50
1963	3.50		5.84	3.00	10.22
1962	3.00		6.57	3.00	10.22
1961	3.00		7.30	3.00	10.22
1960	3.00		6.94	4.00	10.22
1959	4.00		7.30	4.00	7.30
1958	2.50		7.30	3.00	6.57

Year	United States	China	Japan	Germany	South Korea
1957	3.00		8.40	4.00	6.57
1956	3.00		7.30	5.00	6.57
1955	2.50		7.30	3.50	6.57
1954	1.50		5.84	3.00	6.57
1953	2.00		5.84	3.50	6.57
1952	1.75		5.84	4.50	5.84
1951	1.75		5.84	6.00	5.84
1950	1.75		5.11	6.00	5.84



Sources:

United States - Federal Reserve

China – People’s Bank of China

Japan – Bank of Japan

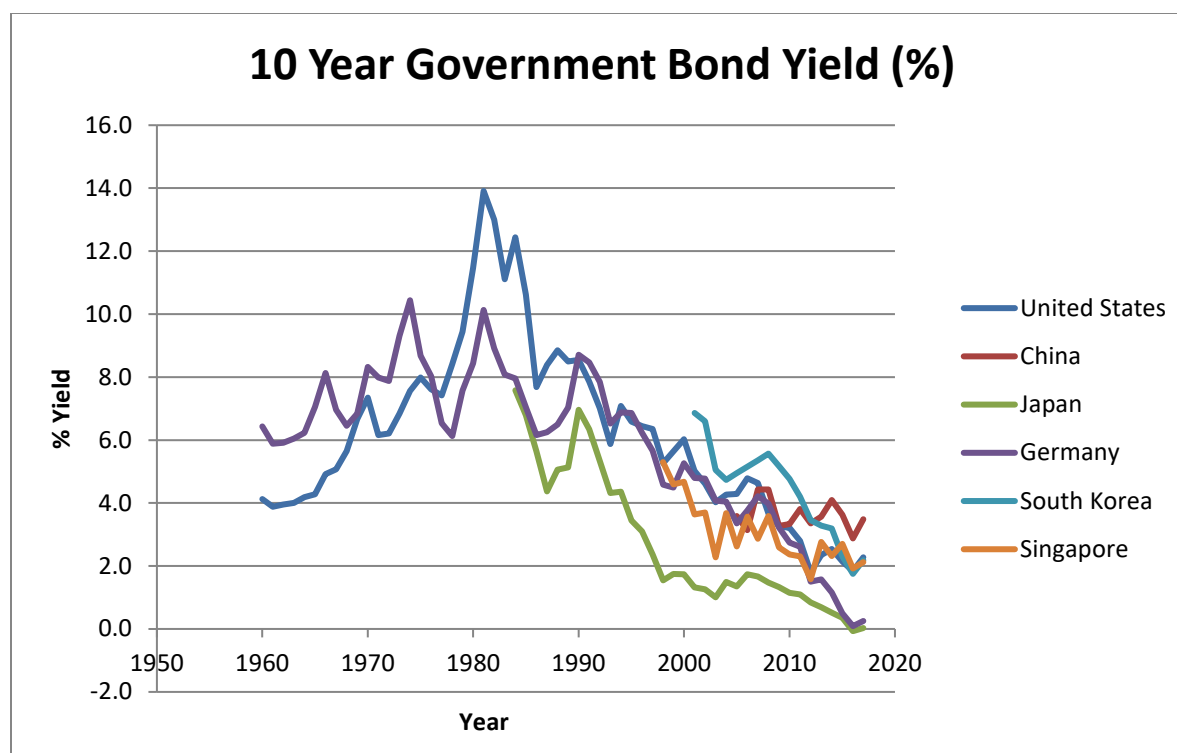
Germany (Euro) – European Central Bank

South Korea – The Bank of Korea

Notes:

The monetary base is used as a proxy for the United States.

Singapore uses exchange rate targets to conduct monetary policy.



Sources:

OECD

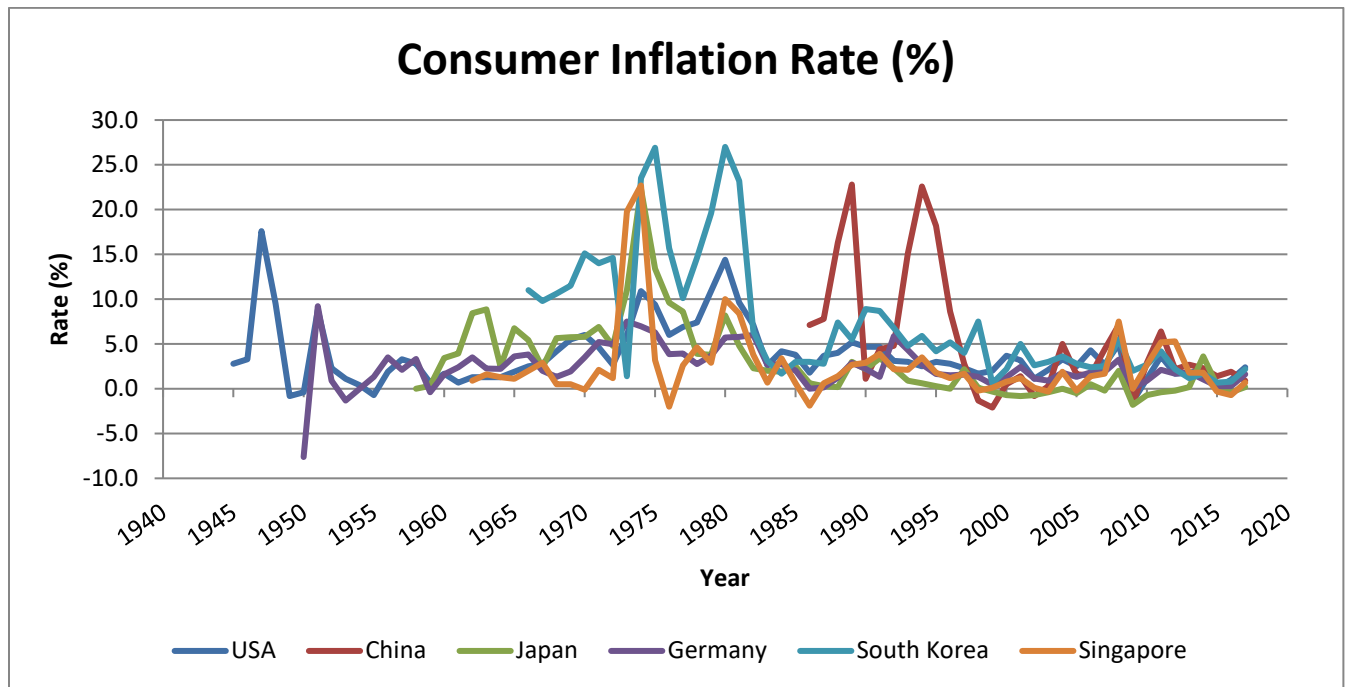
Ministry of Finance Japan

Ministry of Finance of the People's Republic of China

Monetary Authority of Singapore

Year	United States	China	Japan	Germany	South Korea	Singapore
2017	2.3	3.5	0.0	0.3	2.2	2.1
2016	1.8	2.9	-0.1	0.1	1.8	1.9
2015	2.1	3.6	0.4	0.5	2.3	2.7
2014	2.5	4.1	0.5	1.2	3.2	2.3
2013	2.4	3.6	0.7	1.6	3.3	2.8
2012	1.8	3.4	0.8	1.5	3.5	1.6
2011	2.8	3.8	1.1	2.6	4.2	2.3
2010	3.2	3.3	1.2	2.7	4.8	2.4
2009	3.3	3.3	1.3	3.2	5.2	2.6
2008	3.7	4.4	1.5	4.0	5.6	3.6
2007	4.6	4.4	1.7	4.2	5.4	2.9
2006	4.8	3.1	1.7	3.8	5.2	3.6
2005	4.3	3.6	1.4	3.4	5.0	2.6
2004	4.3		1.5	4.0	4.7	3.7
2003	4.0		1.0	4.1	5.1	2.3
2002	4.6		1.3	4.8	6.6	3.7
2001	5.0		1.3	4.8	6.9	3.6

Year	United States	China	Japan	Germany	South Korea	Singapore
2000	6.0		1.7	5.3		4.7
1999	5.6		1.8	4.5		4.6
1998	5.3		1.5	4.6		5.3
1997	6.4		2.4	5.7		
1996	6.4		3.1	6.2		
1995	6.6		3.4	6.9		
1994	7.1		4.4	6.9		
1993	5.9		4.3	6.5		
1992	7.0		5.3	7.9		
1991	7.9		6.3	8.5		
1990	8.6		7.0	8.7		
1989	8.5		5.1	7.0		
1988	8.9		5.1	6.5		
1987	8.4		4.4	6.3		
1986	7.7		5.6	6.2		
1985	10.6		6.8	7.0		
1984	12.4		7.6	8.0		
1983	11.1			8.1		
1982	13.0			8.9		
1981	13.9			10.1		
1980	11.5			8.4		
1979	9.4			7.6		
1978	8.4			6.1		
1977	7.4			6.5		
1976	7.6			8.0		
1975	8.0			8.7		
1974	7.6			10.4		
1973	6.8			9.3		
1972	6.2			7.9		
1971	6.2			8.0		
1970	7.4			8.3		
1969	6.7			6.8		
1968	5.7			6.5		
1967	5.1			7.0		
1966	4.9			8.1		
1965	4.3			7.1		
1964	4.2			6.2		
1963	4.0			6.1		
1962	4.0			5.9		
1961	3.9			5.9		
1960	4.1			6.4		



Sources:

US Bureau of Labor Statistics

National Bureau of Statistics of China

Ministry of Internal Affairs & Communications, Japan

Federal Statistics Office, Germany

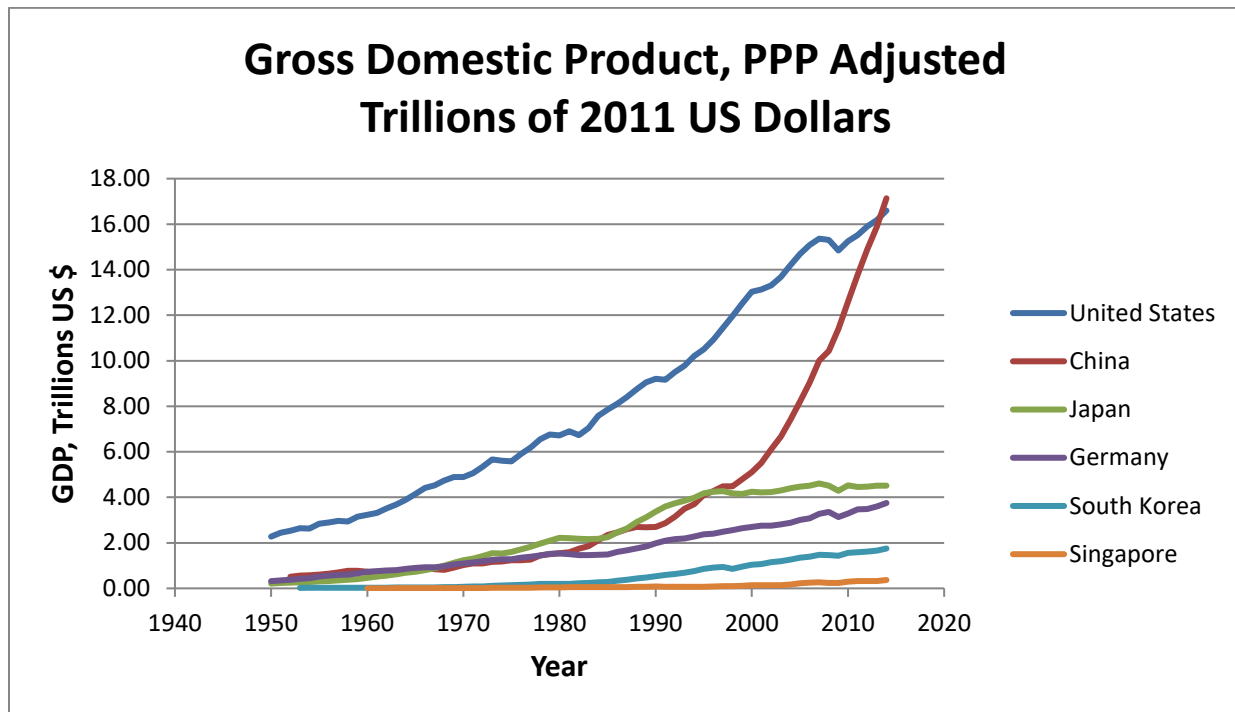
Statistics Korea

Statistics Singapore

Year	United States	China	Japan	Germany	South Korea	Singapore
2017	2.4	0.9	0.2	1.6	2.2	0.7
2016	1.0	1.9	-0.4	0.3	0.8	-0.7
2015	0.1	1.4	0.4	0.3	0.7	-0.3
2014	2.1	2.3	3.6	1.0	1.7	1.8
2013	1.8	2.7	0.2	1.8	1.2	1.8
2012	1.7	2.2	-0.2	1.7	2.2	5.3
2011	3.6	6.4	-0.4	2.1	4.2	5.2
2010	1.1	2.9	-0.7	0.9	2.7	2.7
2009	-1.4	-1.7	-1.8	0.1	2.0	0.0
2008	5.0	7.1	2.0	3.2	5.5	7.5
2007	2.7	4.4	-0.2	1.9	2.5	1.7
2006	4.3	1.5	0.5	1.8	2.4	1.4
2005	2.5	1.6	-0.5	1.3	2.8	-0.2
2004	3.3	5.0	0.0	1.8	3.6	1.9
2003	2.1	0.3	-0.4	0.9	3.0	-0.3
2002	1.1	-0.8	-0.7	1.1	2.6	0.1
2001	3.2	1.4	-0.8	2.5	5.0	1.2
2000	3.7	0.5	-0.7	1.3	2.2	0.8
1999	2.0	-2.1	-0.3	0.5	0.6	0.1
1998	1.7	-1.3	0.1	1.3	7.5	-0.2
1997	2.3	2.8	2.2	1.6	4.0	1.7
1996	2.8	8.6	0.0	1.5	5.2	1.2
1995	3.0	18.2	0.3	1.6	4.2	1.8
1994	2.5	22.6	0.6	2.7	5.9	3.5
1993	3.0	15.1	0.9	4.3	4.8	2.1
1992	3.1	4.8	2.3	5.9	6.8	2.2
1991	4.7	4.4	3.4	1.3	8.7	3.9
1990	4.7	1.1	2.2	2.2	8.9	2.9
1989	5.2	22.8	3.0	2.9	5.5	2.7
1988	4.0	16.3	0.2	1.2	7.4	1.4
1987	3.7	7.8	0.3	0.2	2.8	0.6
1986	1.8	7.1	0.6	0.0	3.0	-1.9
1985	3.8		2.5	2.1	3.0	0.6
1984	4.2		1.9	2.8	1.7	3.4
1983	2.6		2.0	2.7	3.1	0.7
1982	7.1		2.3	6.0	6.4	3.8
1981	9.6		4.8	5.8	23.2	8.4
1980	14.4		8.2	5.7	27.0	10.0
1979	10.9		3.8	3.7	19.6	2.9
1978	7.4		3.9	2.7	14.6	4.6
1977	6.9		8.6	3.9	10.1	2.6
1976	6.0		9.6	3.9	15.7	-2.0
1975	9.4		13.4	6.3	26.9	3.2

Year	United States	China	Japan	Germany	South Korea	Singapore
1974	10.9		22.3	7.0	23.5	22.7
1973	6.0		11.0	7.5	1.4	19.8
1972	2.7		4.8	5.0	14.6	1.2
1971	4.6		6.9	5.2	14.0	2.1
1970	6.0		5.8	3.5	15.1	-0.1
1969	5.5		5.7	1.9	11.5	0.5
1968	4.2		5.7	1.3	10.6	0.5
1967	2.8		2.4	2.0	9.8	2.9
1966	2.5		5.4	3.8	11.0	2.0
1965	1.9		6.8	3.6		1.1
1964	1.3		2.5	2.2		1.3
1963	1.3		8.9	2.3		1.6
1962	1.3		8.5	3.5		0.9
1961	0.7		3.9	2.4		
1960	1.7		3.5	1.6		
1959	0.7		0.3	-0.4		
1958	2.8		0.0	3.3		
1957	3.3			2.1		
1956	1.9			3.5		
1955	-0.7			1.3		
1954	0.4			0.0		
1953	1.1			-1.3		
1952	2.3			0.9		
1951	8.8			9.2		
1950	-0.4			-7.6		
1949	-0.8					
1948	9.5					
1947	17.6					
1946	3.3					
1945	2.8					

Appendix C: Economic Data

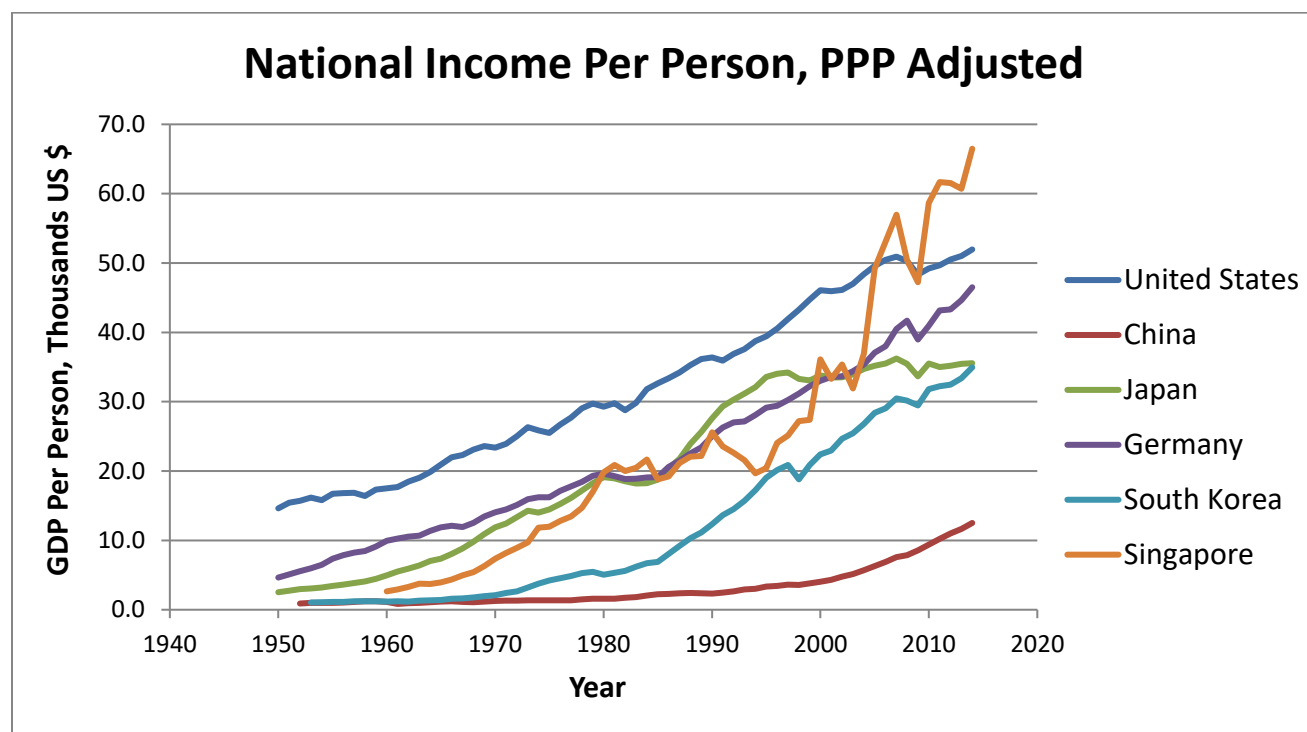


Source: Penn World Tables

Year	United States	China	Japan	Germany	South Korea	Singapore
2014	16.60	17.14	4.51	3.75	1.75	0.37
2013	16.18	15.88	4.50	3.60	1.66	0.33
2012	15.90	14.89	4.47	3.48	1.61	0.33
2011	15.52	13.78	4.45	3.47	1.59	0.32
2010	15.25	12.59	4.52	3.29	1.56	0.30
2009	14.84	11.40	4.29	3.14	1.44	0.23
2008	15.31	10.44	4.51	3.36	1.46	0.24
2007	15.36	10.00	4.61	3.27	1.47	0.27
2006	15.08	9.04	4.51	3.08	1.39	0.25
2005	14.68	8.21	4.47	3.01	1.35	0.22
2004	14.20	7.41	4.40	2.88	1.27	0.16
2003	13.68	6.66	4.30	2.80	1.20	0.14
2002	13.31	6.11	4.23	2.75	1.15	0.15
2001	13.13	5.51	4.21	2.75	1.07	0.13
2000	13.03	5.11	4.25	2.70	1.04	0.14
1999	12.51	4.79	4.15	2.64	0.96	0.10
1998	11.96	4.48	4.17	2.56	0.86	0.10
1997	11.44	4.48	4.28	2.48	0.94	0.09
1996	10.93	4.28	4.25	2.41	0.91	0.09

Year	United States	China	Japan	Germany	South Korea	Singapore
1995	10.50	4.11	4.18	2.38	0.85	0.07
1994	10.21	3.70	3.98	2.28	0.76	0.07
1993	9.79	3.50	3.85	2.19	0.69	0.07
1992	9.51	3.15	3.73	2.16	0.64	0.07
1991	9.17	2.87	3.60	2.09	0.59	0.07
1990	9.20	2.69	3.38	1.98	0.53	0.08
1989	9.06	2.68	3.12	1.84	0.47	0.07
1988	8.75	2.69	2.90	1.76	0.43	0.06
1987	8.40	2.60	2.63	1.67	0.38	0.06
1986	8.12	2.46	2.46	1.60	0.33	0.05
1985	7.86	2.34	2.25	1.48	0.28	0.05
1984	7.58	2.11	2.18	1.48	0.27	0.06
1983	7.04	1.86	2.16	1.47	0.24	0.05
1982	6.73	1.74	2.18	1.47	0.22	0.05
1981	6.90	1.59	2.21	1.50	0.20	0.05
1980	6.72	1.54	2.22	1.53	0.19	0.05
1979	6.76	1.51	2.10	1.51	0.20	0.04
1978	6.54	1.44	1.96	1.44	0.19	0.03
1977	6.18	1.27	1.82	1.40	0.17	0.03
1976	5.90	1.23	1.71	1.35	0.16	0.03
1975	5.58	1.24	1.60	1.28	0.15	0.03
1974	5.61	1.19	1.53	1.28	0.13	0.03
1973	5.66	1.17	1.54	1.26	0.11	0.02
1972	5.33	1.09	1.42	1.19	0.09	0.02
1971	5.06	1.09	1.31	1.14	0.08	0.02
1970	4.90	1.02	1.23	1.10	0.07	0.02
1969	4.89	0.91	1.12	1.05	0.06	0.01
1968	4.74	0.81	1.00	0.97	0.05	0.01
1967	4.53	0.85	0.88	0.92	0.05	0.01
1966	4.42	0.88	0.80	0.93	0.04	0.01
1965	4.15	0.82	0.72	0.90	0.04	0.01
1964	3.90	0.75	0.68	0.86	0.04	0.01
1963	3.68	0.66	0.61	0.80	0.03	0.01
1962	3.52	0.59	0.57	0.78	0.03	0.01
1961	3.32	0.53	0.52	0.75	0.03	0.00
1960	3.23	0.73	0.47	0.72	0.03	0.00
1959	3.15	0.78	0.41	0.66	0.03	
1958	2.93	0.78	0.38	0.61	0.03	
1957	2.96	0.70	0.35	0.59	0.03	
1956	2.90	0.64	0.33	0.56	0.02	
1955	2.83	0.60	0.30	0.52	0.02	
1954	2.63	0.57	0.28	0.45	0.02	
1953	2.64	0.56	0.27	0.42	0.02	

Year	United States	China	Japan	Germany	South Korea	Singapore
1952	2.53	0.51	0.26	0.38		
1951	2.44		0.23	0.35		
1950	2.27		0.21	0.32		

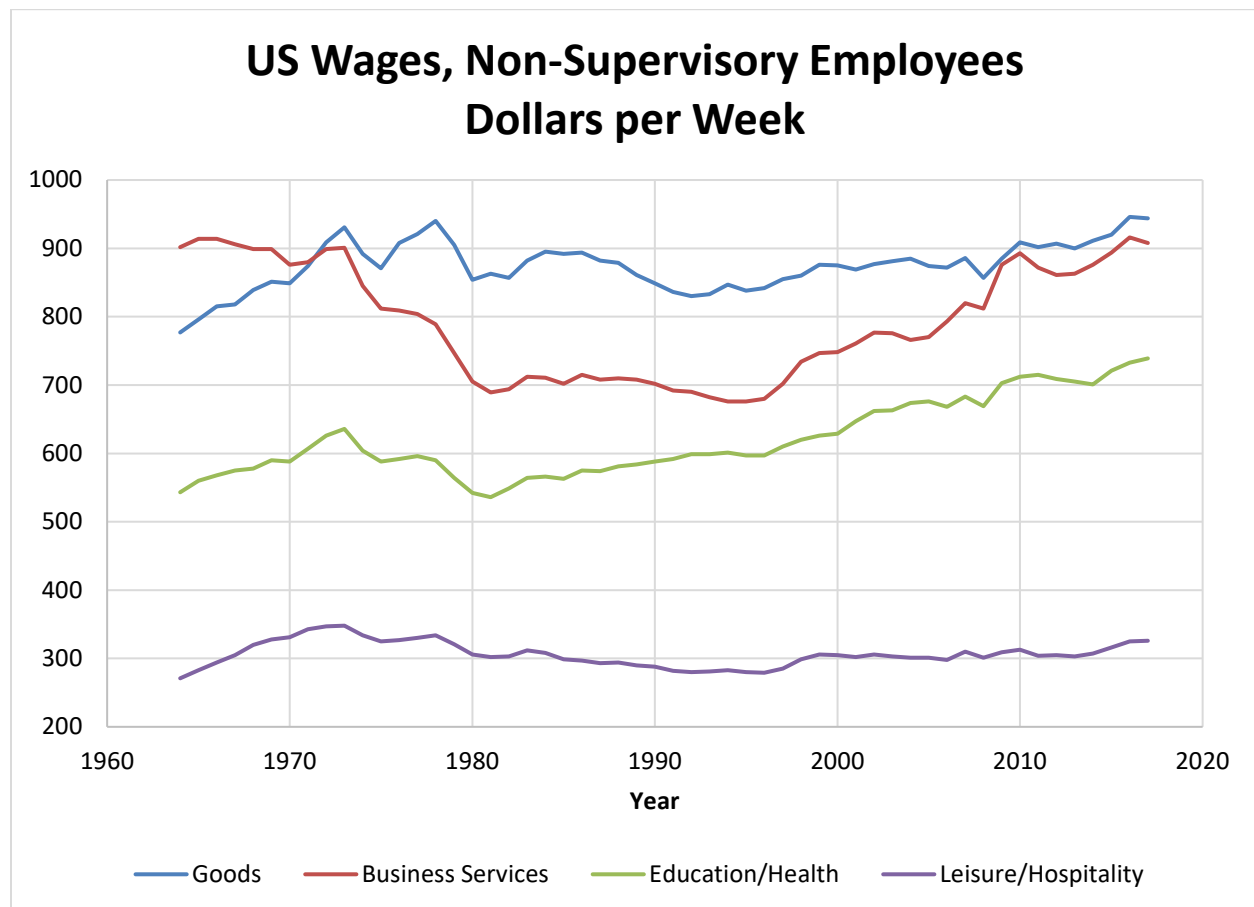


Source: Penn World Tables

Year	United States	China	Japan	Germany	South Korea	Singapore
2014	52.0	12.5	35.6	46.5	35.0	66.5
2013	51.0	11.7	35.5	44.7	33.4	60.7
2012	50.5	11.0	35.2	43.3	32.5	61.6
2011	49.7	10.2	35.0	43.2	32.2	61.7
2010	49.2	9.4	35.5	40.9	31.8	58.7
2009	48.3	8.5	33.7	39.0	29.5	47.2
2008	50.3	7.9	35.4	41.7	30.2	50.4
2007	50.9	7.6	36.2	40.5	30.5	57.0
2006	50.5	6.9	35.5	38.0	29.1	53.1
2005	49.6	6.3	35.2	37.1	28.4	49.2
2004	48.4	5.7	34.7	35.4	26.8	36.9
2003	47.0	5.2	34.0	34.4	25.4	31.9
2002	46.1	4.8	33.5	33.7	24.6	35.3
2001	45.9	4.3	33.5	33.6	23.0	33.3
2000	46.1	4.0	33.8	33.0	22.4	36.1

Year	United States	China	Japan	Germany	South Korea	Singapore
1999	44.7	3.8	33.1	32.2	20.9	27.4
1998	43.3	3.6	33.3	31.2	18.8	27.2
1997	41.9	3.6	34.2	30.3	20.9	25.1
1996	40.5	3.5	34.0	29.4	20.2	24.1
1995	39.4	3.3	33.6	29.1	19.0	20.4
1994	38.8	3.0	32.1	28.1	17.2	19.7
1993	37.6	2.9	31.2	27.1	15.7	21.5
1992	36.9	2.7	30.3	27.0	14.5	22.6
1991	35.9	2.5	29.3	26.3	13.6	23.5
1990	36.4	2.3	27.6	25.0	12.3	25.6
1989	36.2	2.4	25.6	23.4	11.1	22.2
1988	35.3	2.4	23.9	22.5	10.3	22.1
1987	34.2	2.4	21.8	21.5	9.2	21.1
1986	33.4	2.3	20.4	20.6	8.1	19.2
1985	32.7	2.2	18.8	19.1	6.9	18.8
1984	31.8	2.0	18.3	19.1	6.7	21.7
1983	29.8	1.8	18.2	18.9	6.2	20.5
1982	28.8	1.7	18.5	18.8	5.6	20.0
1981	29.8	1.6	18.9	19.2	5.3	20.9
1980	29.3	1.6	19.1	19.6	5.1	19.8
1979	29.7	1.6	18.2	19.3	5.4	17.0
1978	29.1	1.5	17.2	18.4	5.3	14.7
1977	27.7	1.4	16.1	17.8	4.9	13.5
1976	26.7	1.3	15.3	17.1	4.5	12.8
1975	25.5	1.4	14.5	16.2	4.2	12.0
1974	25.9	1.3	14.0	16.2	3.7	11.8
1973	26.3	1.3	14.3	16.0	3.2	9.7
1972	25.0	1.3	13.4	15.1	2.7	8.9
1971	23.9	1.3	12.4	14.5	2.4	8.2
1970	23.4	1.3	11.9	14.0	2.1	7.4
1969	23.6	1.2	10.9	13.4	2.0	6.3
1968	23.1	1.1	9.8	12.5	1.8	5.4
1967	22.3	1.1	8.8	11.9	1.6	4.9
1966	22.0	1.2	8.1	12.1	1.6	4.4
1965	20.9	1.2	7.4	11.9	1.4	3.9
1964	19.9	1.1	7.0	11.4	1.4	3.7
1963	19.0	1.0	6.4	10.7	1.3	3.7
1962	18.5	0.9	5.9	10.5	1.2	3.3
1961	17.7	0.8	5.5	10.2	1.2	2.9
1960	17.5	1.1	5.0	9.9	1.2	2.6
1959	17.3	1.2	4.4	9.1	1.2	
1958	16.4	1.2	4.1	8.5	1.2	
1957	16.9	1.1	3.9	8.3	1.2	

Year	United States	China	Japan	Germany	South Korea	Singapore
1956	16.8	1.1	3.6	7.9	1.1	
1955	16.7	1.0	3.4	7.3	1.1	
1954	15.8	1.0	3.2	6.5	1.1	
1953	16.2	1.0	3.1	6.0	1.0	
1952	15.7	0.9	3.0	5.6		
1951	15.4		2.8	5.1		
1950	14.6		2.5	4.6		

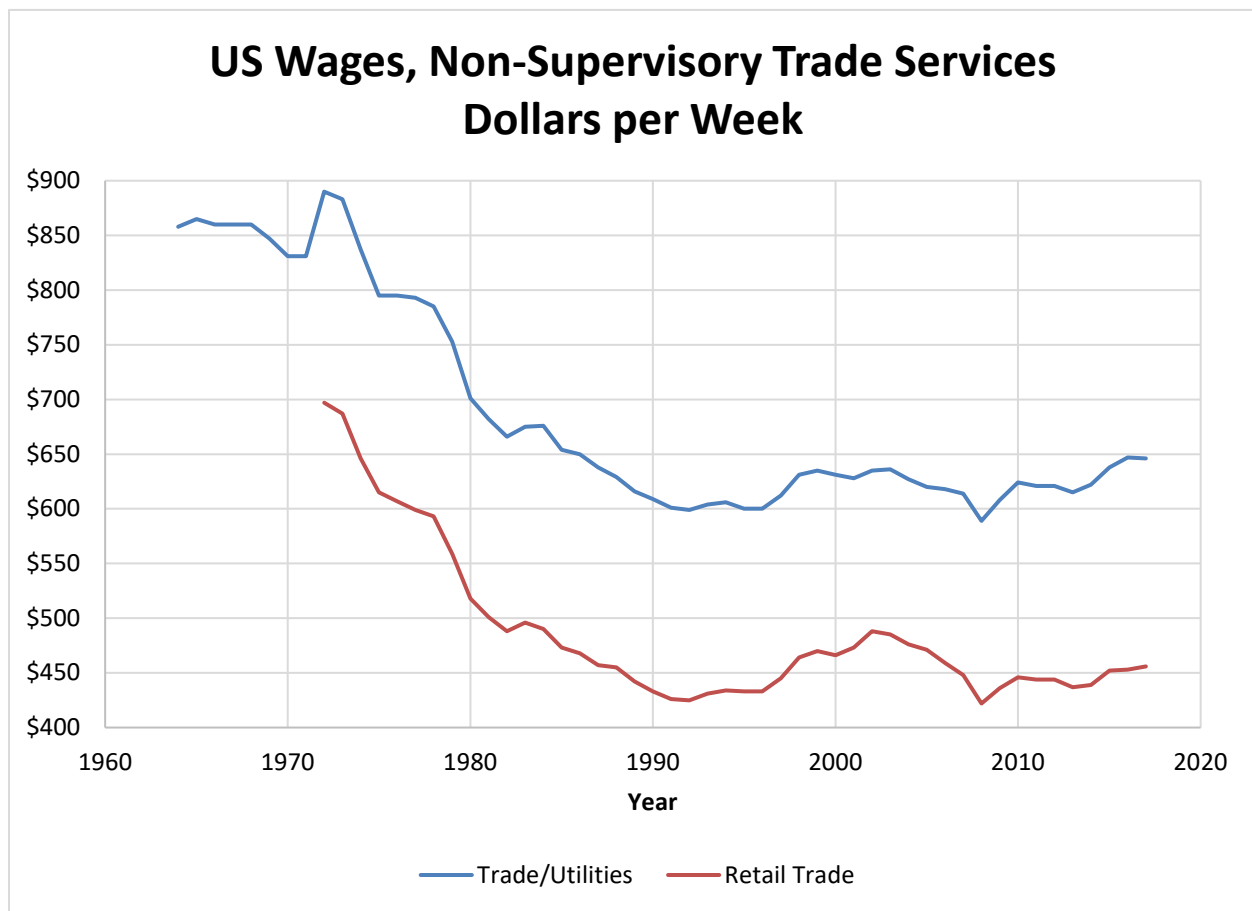


Source: Bureau of Labor Statistics, Current Employment Statistics and CPI

Year	Goods	Mining/Logging	Construction	Manufacturing	Durable	Non-durable
2017	944	1,248	1,043	867	920	788
2016	946	1,238	1,050	870	924	784
2015	920	1,237	1,008	847	898	766
2014	911	1,296	996	833	891	741
2013	900	1,262	986	829	882	745
2012	907	1,284	985	839	897	749
2011	902	1,217	982	836	896	744
2010	909	1,187	984	852	915	758
2009	885	1,129	968	825	881	743
2008	857	1,111	930	800	851	719
2007	886	1,122	951	833	883	748
2006	872	1,087	931	828	878	744
2005	874	1,064	929	832	882	754
2004	885	1,035	947	845	888	780
2003	881	1,004	962	836	881	766
2002	877	998	957	834	879	767
2001	869	1,040	953	824	866	753
2000	875	1,038	958	833	881	756
1999	876	1,064	953	838	889	759
1998	860	1,076	942	821	865	751
1997	855	1,082	921	821	882	731
1996	842	1,064	901	815	878	722

Year	Goods	Mining/Logging	Construction	Manufacturing	Durable	Non-durable
1995	838	1,073	911	806	869	718
1994	847	1,069	911	818	885	727
1993	833	1,063	904	803	868	718
1992	830	1,072	899	800	862	716
1991	836	1,105	916	800	861	716
1990	849	1,126	936	809	870	724
1989	861	1,103	968	817	878	731
1988	879	1,115	972	837	902	744
1987	882	1,116	976	841	907	750
1986	894	1,161	985	854	922	755
1985	892	1,169	994	844	917	739
1984	895	1,187	1,013	846	922	738
1983	882	1,161	1,012	833	903	734
1982	857	1,154	1,007	798	868	699
1981	863	1,161	989	811	886	698
1980	854	1,130	1,001	798	868	696
1979	905	1,170	1,052	854	933	731
1978	940	1,224	1,104	885	970	752
1977	921	1,181	1,078	873	961	742
1976	908	1,137	1,104	852	938	725
1975	871	1,076	1,094	809	887	698
1974	892	1,081	1,109	830	908	712

Year	Goods	Mining/Logging	Construction	Manufacturing	Durable	Non-durable
1973	931	1,087	1,172	864	957	730
1972	909	1,077	1,152	843	927	724
1971	874	1,010	1,130	804	879	694
1970	849	995	1,093	788	868	676
1969	851	997	1,052	803	883	682
1968	839	994	1,000	798	881	677
1967	818	987	983	776	859	653
1966	815	966	954	778	863	649
1965	796	939	911	766	856	636
1964	777	910	879	746	838	619



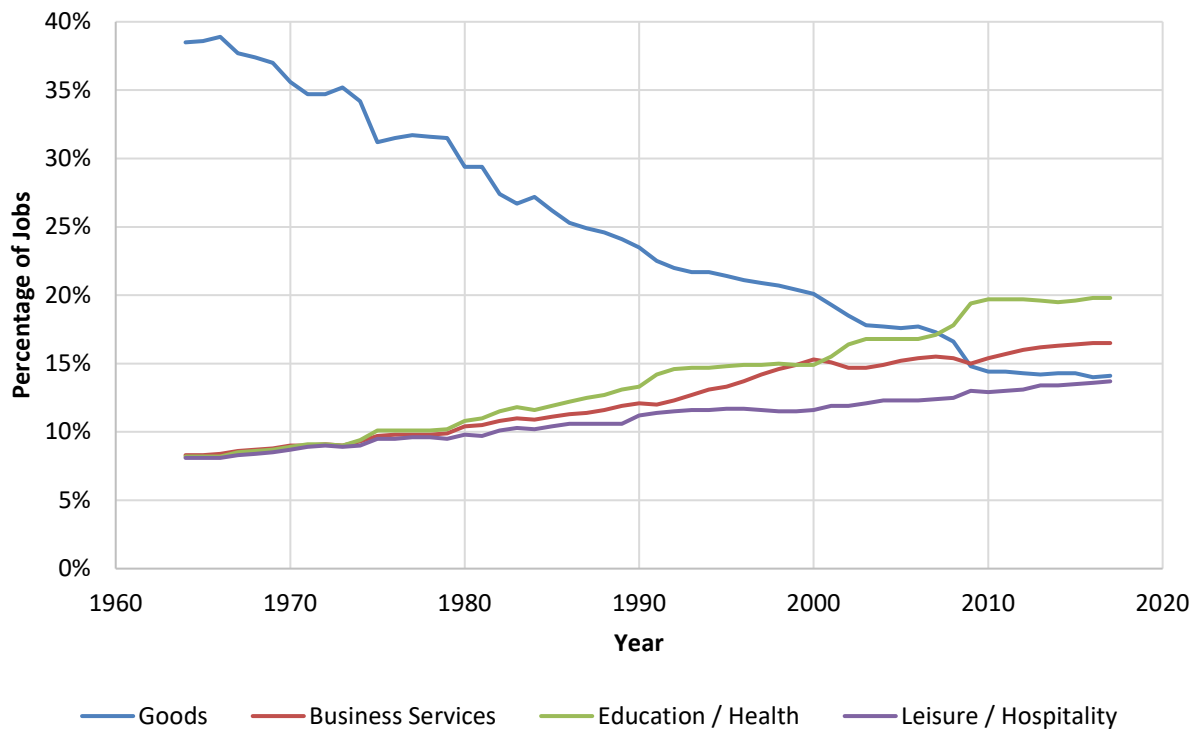
Source: Bureau of Labor Statistics, Current Employment Statistics and CPI

Year	Services	Trade / Utilities	Whole Trade	Retail Trade	Trans / Warehouse	Utilities	Information	Finance	Business Services	Education / Health	Leisure / Hospitality	Other
2017	699	646	955	456	806	1,524	1,084	971	908	739	326	612
2016	701	647	950	453	827	1,526	1,101	979	916	733	325	602
2015	686	638	926	452	817	1,464	1,053	956	894	721	316	593
2014	670	622	907	439	795	1,410	1,049	918	876	701	307	576
2013	664	615	904	437	783	1,385	1,026	903	863	705	303	569
2012	665	621	903	444	781	1,394	1,023	878	861	709	305	569
2011	666	621	909	444	787	1,374	1,029	852	872	715	304	568
2010	674	624	908	446	793	1,414	1,050	869	893	712	313	583
2009	661	608	881	436	764	1,384	1,050	851	876	703	309	568
2008	631	589	851	422	735	1,328	1,006	798	812	669	301	547
2007	647	614	872	448	761	1,387	1,021	824	820	683	310	557
2006	635	618	864	459	768	1,365	1,019	802	793	668	298	544
2005	635	620	853	471	769	1,380	1,004	810	770	676	301	553
2004	635	627	859	476	791	1,337	1,000	805	766	674	301	557
2003	641	636	869	485	793	1,344	1,017	817	776	663	303	572
2002	640	635	869	488	775	1,324	989	781	777	662	306	594
2001	630	628	880	473	763	1,330	997	769	761	647	302	587
2000	625	631	886	466	786	1,358	988	754	748	629	305	581
1999	626	635	879	470	797	1,363	987	766	747	626	306	581

Year	Services	Trade / Utilities	Whole Trade	Retail Trade	Trans / Warehouse	Utilities	Information	Finance	Business Services	Education / Health	Leisure / Hospitality	Other
1998	618	631	865	464	814	1,331	964	749	734	620	299	574
1997	595	612	843	445	805	1,307	938	716	702	610	285	556
1996	580	600	821	433	808	1,258	916	697	680	597	279	542
1995	578	600	812	433	813	1,301	893	695	676	597	280	542
1994	580	606	822	434	825	1,285	897	687	676	601	283	544
1993	579	604	816	431	828	1,271	900	678	682	599	281	540
1992	576	599	809	425	821	1,237	875	664	690	599	280	541
1991	576	601	813	426	833	1,210	888	657	692	592	282	543
1990	582	609	815	433	872	1,241	882	655	702	588	288	550
1989	589	616	825	442	879	1,255	909	662	708	584	290	547
1988	593	629	835	455	903	1,265	927	654	710	581	294	539
1987	596	638	834	457	963	1,267	951	656	708	574	293	530
1986	602	650	850	468	961	1,297	961	660	715	575	297	530
1985	597	654	850	473	965	1,247	954	633	702	563	299	516
1984	610	676	862	490	1,015	1,237	976	641	711	566	308	516
1983	608	675	856	496	1,008	1,204	967	627	712	564	312	511
1982	594	666	829	488	995	1,158	940	595	694	549	303	493
1981	600	682	832	501	1,031	1,137	957	588	689	536	302	478
1980	610	701	844	518	1,061	1,179	979	596	705	542	306	475

Year	Services	Trade / Utilities	Whole Trade	Retail Trade	Trans / Warehouse	Utilities	Information	Finance	Business Services	Education / Health	Leisure / Hospitality	Other
1979	649	753	901	559	1,137	1,204	1,050	615	747	564	321	486
1978	679	785	938	593	1,163	1,266	1,104	648	789	590	334	500
1977	686	793	932	599	1,183	1,274	1,119	642	804	596	330	497
1976	685	795	929	607	1,181	1,259	1,125	642	809	592	327	488
1975	684	795	922	615	1,142	1,213	1,101	638	812	588	325	474
1974	717	837	959	646	1,202	1,265	1,158	659	845	604	334	476
1973	757	883	1,017	687	1,258	1,330	1,233	693	901	636	348	491
1972	758	890	1,028	697	1,241	1,325	1,231	696	899	626	347	473
1971	721	831					1,155	683	880	607	343	447
1970	718	831					1,189	679	876	588	331	421
1969	730	847					1,221	692	899	590	328	410
1968	735	860					1,240	689	899	578	320	387
1967	731	860					1,243	675	906	575	305	373
1966	732	860					1,263	667	914	568	294	356
1965	731	865					1,278	659	914	560	283	340
1964	720	858					1,264	646	902	543	271	317

Shift of Non-Supervisory Jobs from Goods to Services



Source: Bureau of Labor Statistics, Current Employment Statistics

year	Goods	Mining / Logging	Construction	Manufacturing	Durable Manufacturing	Non-Durable Manufacturing
2017	14%	1%	5%	9%	5%	3%
2016	14%	1%	5%	9%	5%	3%
2015	14%	1%	5%	9%	5%	3%
2014	14%	1%	5%	9%	6%	3%
2013	14%	1%	5%	9%	5%	3%
2012	14%	1%	5%	9%	6%	4%
2011	14%	1%	5%	9%	6%	4%
2010	14%	1%	5%	9%	6%	4%
2009	15%	1%	5%	9%	6%	4%
2008	17%	1%	6%	10%	6%	4%
2007	17%	1%	6%	11%	7%	4%
2006	18%	1%	6%	11%	7%	4%

year	Goods	Mining / Logging	Construction	Manufacturing	Durable Manufacturing	Non-Durable Manufacturing
2005	18%	1%	6%	11%	7%	4%
2004	18%	1%	6%	11%	7%	4%
2003	18%	1%	6%	12%	7%	5%
2002	19%	1%	6%	12%	7%	5%
2001	19%	1%	6%	13%	8%	5%
2000	20%	1%	6%	14%	9%	5%
1999	20%	1%	6%	14%	9%	6%
1998	21%	1%	6%	15%	9%	6%
1997	21%	1%	5%	15%	9%	6%
1996	21%	1%	5%	15%	9%	6%
1995	21%	1%	5%	16%	9%	7%
1994	22%	1%	5%	16%	9%	7%
1993	22%	1%	5%	16%	9%	7%
1992	22%	1%	5%	17%	9%	7%
1991	23%	1%	5%	17%	10%	7%
1990	24%	1%	6%	17%	10%	7%
1989	24%	1%	6%	18%	10%	7%
1988	25%	1%	6%	18%	11%	7%
1987	25%	1%	6%	18%	11%	8%
1986	25%	1%	6%	19%	11%	8%
1985	26%	1%	6%	19%	11%	8%
1984	27%	1%	6%	20%	12%	8%
1983	27%	1%	5%	20%	12%	9%
1982	27%	1%	5%	21%	12%	9%
1981	29%	1%	6%	22%	13%	9%
1980	29%	1%	6%	22%	13%	9%
1979	32%	1%	6%	24%	15%	9%
1978	32%	1%	6%	24%	15%	10%
1977	32%	1%	6%	25%	15%	10%
1976	32%	1%	6%	25%	15%	10%
1975	31%	1%	6%	24%	14%	10%
1974	34%	1%	6%	27%	16%	11%
1973	35%	1%	7%	27%	16%	11%

year	Goods	Mining / Logging	Construction	Manufacturing	Durable Manufacturing	Non-Durable Manufacturing
1972	35%	1%	7%	27%	16%	11%
1971	35%	1%	7%	27%	16%	11%
1970	36%	1%	7%	28%	17%	12%
1969	37%	1%	7%	29%	18%	12%
1968	37%	1%	6%	30%	18%	12%
1967	38%	1%	6%	30%	18%	12%
1966	39%	1%	7%	31%	19%	12%
1965	39%	1%	7%	31%	18%	13%
1964	39%	1%	7%	30%	18%	13%

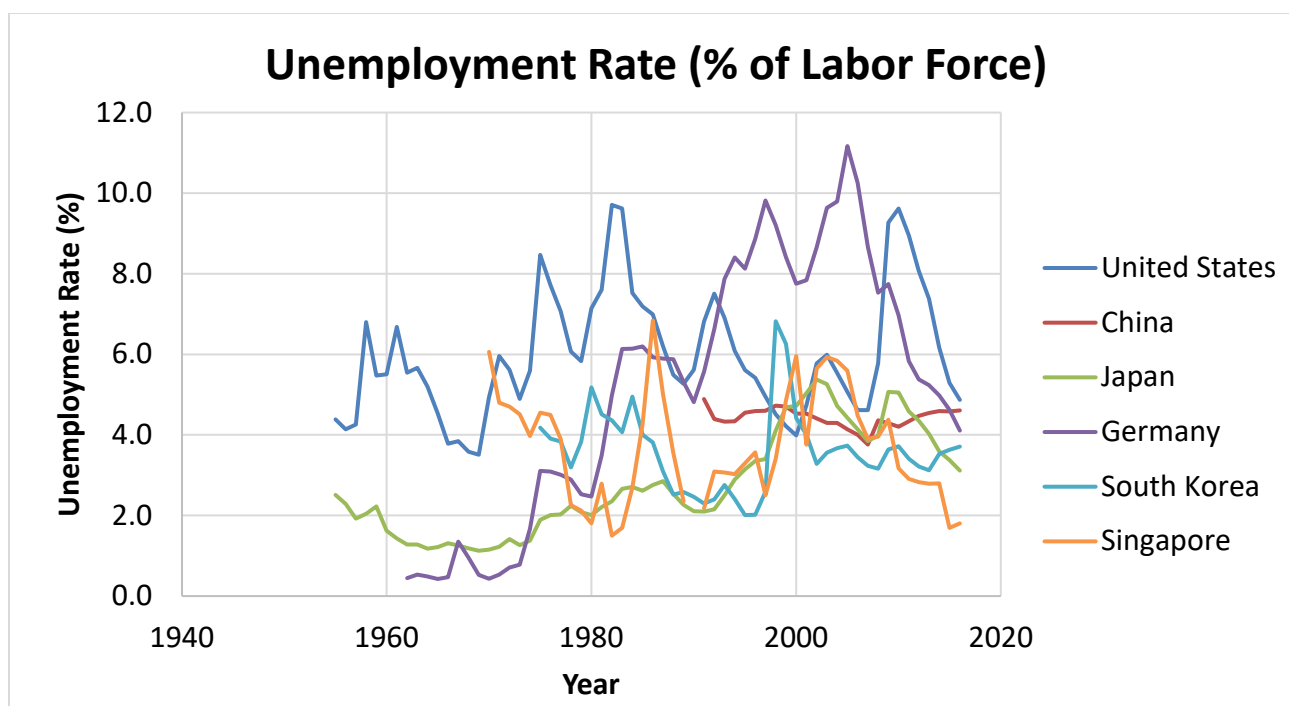
Year	Services	Trade / Utilities	Whole Trade	Retail Trade	Trans / Warehouse	Utilities	Information	Finance	Business Services	Education / Health	Leisure / Hospitality	Other
2017	86%	23%	5%	13%	4%	0%	2%	6%	17%	19.80%	13.70%	4.70%
2016	86%	23%	5%	13%	4%	1%	2%	6%	17%	19.80%	13.60%	4.70%
2015	86%	23%	5%	14%	4%	1%	2%	6%	16%	19.60%	13.50%	4.70%
2014	86%	23%	5%	14%	4%	1%	2%	6%	16%	19.50%	13.40%	4.80%
2013	86%	23%	5%	14%	4%	1%	2%	6%	16%	19.60%	13.40%	4.80%
2012	86%	23%	5%	14%	4%	1%	2%	7%	16%	19.70%	13.10%	4.90%
2011	86%	23%	5%	14%	4%	1%	2%	7%	16%	19.70%	13.00%	4.90%
2010	86%	24%	5%	14%	4%	1%	2%	7%	15%	19.70%	12.90%	5.00%
2009	85%	24%	5%	14%	4%	1%	3%	7%	15%	19.40%	13.00%	5.00%
2008	83%	24%	5%	14%	4%	1%	3%	7%	15%	17.80%	12.50%	4.90%
2007	83%	24%	5%	14%	4%	1%	3%	7%	16%	17.10%	12.40%	4.80%
2006	82%	24%	5%	14%	4%	1%	3%	7%	15%	16.80%	12.30%	4.80%
2005	82%	24%	5%	14%	4%	1%	3%	7%	15%	16.80%	12.30%	4.90%
2004	82%	24%	5%	14%	4%	1%	3%	7%	15%	16.80%	12.30%	5.00%
2003	82%	24%	5%	14%	4%	1%	3%	7%	15%	16.80%	12.10%	5.00%
2002	82%	24%	5%	14%	4%	1%	3%	7%	15%	16.40%	11.90%	5.00%
2001	81%	24%	5%	14%	4%	1%	3%	7%	15%	15.50%	11.90%	4.90%
2000	80%	24%	5%	14%	4%	1%	3%	6%	15%	14.90%	11.60%	4.70%
1999	80%	24%	5%	14%	4%	1%	3%	7%	15%	14.90%	11.50%	4.80%
1998	79%	24%	5%	14%	4%	1%	3%	7%	15%	15.00%	11.50%	4.80%
1997	79%	25%	5%	15%	4%	1%	3%	7%	14%	14.90%	11.60%	4.80%
1996	79%	25%	5%	15%	4%	1%	3%	7%	14%	14.90%	11.70%	4.80%
1995	79%	25%	6%	15%	4%	1%	3%	7%	13%	14.80%	11.70%	4.80%

Year	Services	Trade / Utilities	Whole Trade	Retail Trade	Trans / Warehouse	Utilities	Information	Finance	Business Services	Education / Health	Leisure / Hospitality	Other
1994	78%	25%	5%	15%	4%	1%	3%	7%	13%	14.70%	11.60%	4.80%
1993	78%	25%	6%	15%	4%	1%	3%	7%	13%	14.70%	11.60%	4.90%
1992	78%	25%	6%	15%	4%	1%	3%	7%	12%	14.60%	11.50%	4.80%
1991	78%	26%	6%	15%	4%	1%	3%	7%	12%	14.20%	11.40%	4.90%
1990	77%	26%	6%	15%	4%	1%	3%	7%	12%	13.30%	11.20%	4.80%
1989	76%	26%	6%	16%	4%	1%	3%	7%	12%	13.10%	10.60%	4.70%
1988	75%	26%	6%	16%	4%	1%	3%	7%	12%	12.70%	10.60%	4.60%
1987	75%	27%	6%	16%	4%	1%	3%	7%	11%	12.50%	10.60%	4.50%
1986	75%	27%	6%	16%	4%	1%	3%	7%	11%	12.20%	10.60%	4.40%
1985	74%	27%	6%	16%	4%	1%	3%	7%	11%	11.90%	10.40%	4.30%
1984	73%	27%	6%	16%	4%	1%	3%	7%	11%	11.60%	10.20%	4.20%
1983	73%	27%	6%	16%	4%	1%	3%	7%	11%	11.80%	10.30%	4.20%
1982	73%	27%	6%	16%	4%	1%	3%	7%	11%	11.50%	10.10%	4.10%
1981	71%	26%	6%	15%	4%	1%	3%	7%	11%	11.00%	9.70%	3.90%
1980	71%	27%	6%	15%	4%	1%	3%	7%	10%	10.80%	9.80%	3.90%
1979	69%	26%	6%	15%	4%	1%	3%	6%	10%	10.20%	9.50%	3.70%
1978	68%	26%	6%	15%	4%	1%	3%	6%	10%	10.10%	9.60%	3.60%
1977	68%	26%	6%	15%	4%	1%	3%	6%	10%	10.10%	9.60%	3.60%
1976	69%	27%	6%	15%	4%	1%	3%	6%	10%	10.10%	9.50%	3.60%
1975	69%	27%	6%	15%	4%	1%	3%	6%	10%	10.10%	9.50%	3.60%
1974	66%	26%	6%	15%	5%	1%	3%	6%	9%	9.40%	9.00%	3.30%
1973	65%	26%	6%	14%	5%	1%	3%	6%	9%	9.00%	8.90%	3.20%
1972	65%	26%	6%	15%	5%	1%	3%	6%	9%	9.10%	9.00%	3.20%

Year	Services	Trade / Utilities	Whole Trade	Retail Trade	Trans / Warehouse	Utilities	Information	Finance	Business Services	Education / Health	Leisure / Hospitality	Other
1971	65%	26%					3%	6%	9%	9.10%	8.90%	3.20%
1970	64%	26%					3%	6%	9%	8.90%	8.70%	3.10%
1969	63%	25%					3%	6%	9%	8.70%	8.50%	3.00%
1968	63%	25%					3%	6%	9%	8.60%	8.40%	3.00%
1967	62%	25%					3%	6%	9%	8.50%	8.30%	2.90%
1966	61%	25%					3%	6%	8%	8.20%	8.10%	2.80%
1965	61%	25%					3%	6%	8%	8.20%	8.10%	2.70%
1964	62%	25%					3%	6%	8%	8.20%	8.10%	2.70%

Non-supervisory Employees (Wages in Real 2017 Dollars)

Year	1964	2017
% Jobs in Goods	39%	14%
% Jobs in Services	62%	86%
Weekly Wages in Goods	\$777	\$944
Weekly Wages in Services	\$720	\$699

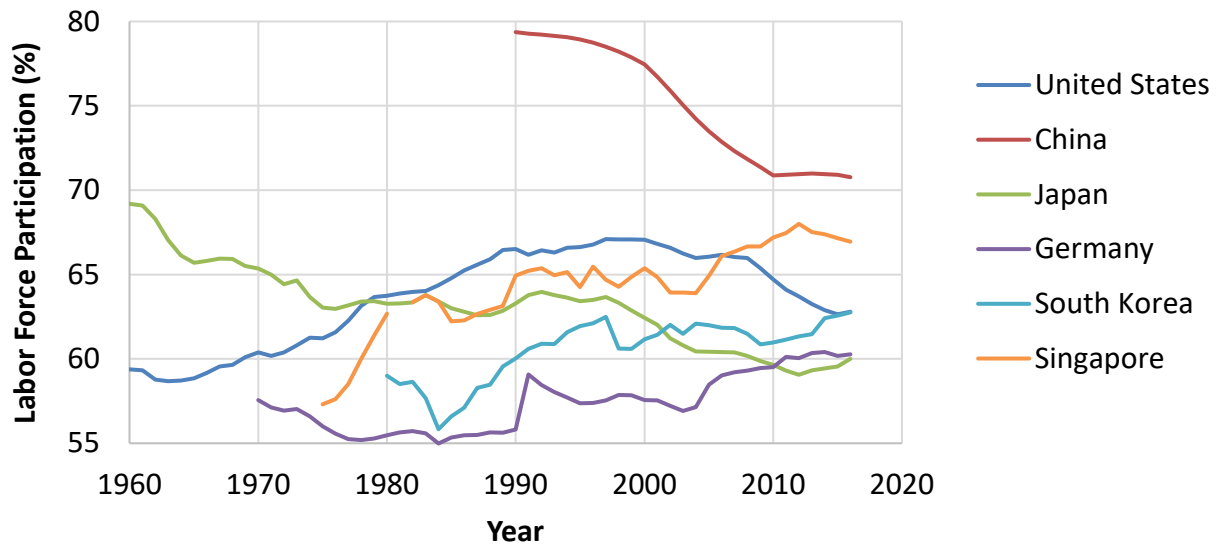


Sources: OECD and World Development Index, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2016	4.9	4.6	3.1	4.1	3.7	1.8
2015	5.3	4.6	3.4	4.6	3.6	1.7
2014	6.2	4.6	3.6	5.0	3.5	2.8
2013	7.4	4.5	4.0	5.2	3.1	2.8
2012	8.1	4.5	4.4	5.4	3.2	2.8
2011	9.0	4.3	4.6	5.8	3.4	2.9
2010	9.6	4.2	5.1	7.0	3.7	3.2
2009	9.3	4.3	5.1	7.7	3.6	4.4
2008	5.8	4.4	4.0	7.5	3.2	4.0
2007	4.6	3.8	3.8	8.7	3.2	3.9
2006	4.6	4.0	4.1	10.3	3.5	4.5
2005	5.1	4.1	4.4	11.2	3.7	5.6
2004	5.5	4.3	4.7	9.8	3.7	5.8
2003	6.0	4.3	5.3	9.6	3.6	5.9
2002	5.8	4.4	5.4	8.7	3.3	5.7
2001	4.7	4.5	5.0	7.8	4.0	3.8
2000	4.0	4.5	4.7	7.8	4.4	6.0
1999	4.2	4.7	4.7	8.4	6.3	4.8
1998	4.5	4.7	4.1	9.2	6.8	3.4
1997	5.0	4.6	3.4	9.8	2.6	2.5
1996	5.4	4.6	3.4	8.9	2.0	3.6

Year	United States	China	Japan	Germany	South Korea	Singapore
1995	5.6	4.6	3.2	8.1	2.0	3.3
1994	6.1	4.3	2.9	8.4	2.4	3.0
1993	6.9	4.3	2.5	7.9	2.8	3.1
1992	7.5	4.4	2.2	6.6	2.4	3.1
1991	6.8	4.9	2.1	5.6	2.3	2.2
1990	5.6		2.1	4.8	2.5	
1989	5.3		2.3	5.3	2.6	2.3
1988	5.5		2.5	5.9	2.5	3.5
1987	6.2		2.9	5.9	3.1	5.0
1986	7.0		2.8	5.9	3.8	6.8
1985	7.2		2.6	6.2	4.0	4.3
1984	7.5		2.7	6.1	4.9	2.7
1983	9.6		2.7	6.1	4.1	1.7
1982	9.7		2.4	5.0	4.4	1.5
1981	7.6		2.2	3.5	4.5	2.8
1980	7.1		2.0	2.5	5.2	1.8
1979	5.8		2.1	2.5	3.8	2.1
1978	6.1		2.2	2.9	3.2	2.3
1977	7.1		2.0	3.0	3.8	3.9
1976	7.7		2.0	3.1	3.9	4.5
1975	8.5		1.9	3.1	4.2	4.6
1974	5.6		1.4	1.7		4.0
1973	4.9		1.3	0.8		4.5
1972	5.6		1.4	0.7		4.7
1971	6.0		1.2	0.5		4.8
1970	4.9		1.2	0.4		6.1
1969	3.5		1.1	0.5	4.8	
1968	3.6		1.2	1.0		
1967	3.8		1.3	1.3		
1966	3.8		1.3	0.5		
1965	4.5		1.2	0.4		
1964	5.2		1.2	0.5		
1963	5.7		1.3	0.5		
1962	5.5		1.3	0.4		
1961	6.7		1.4			
1960	5.5		1.6			
1959	5.5		2.2			
1958	6.8		2.0			
1957	4.3		1.9			
1956	4.1		2.3			
1955	4.4		2.5			

Labor Force Participation (% of Adult Population)

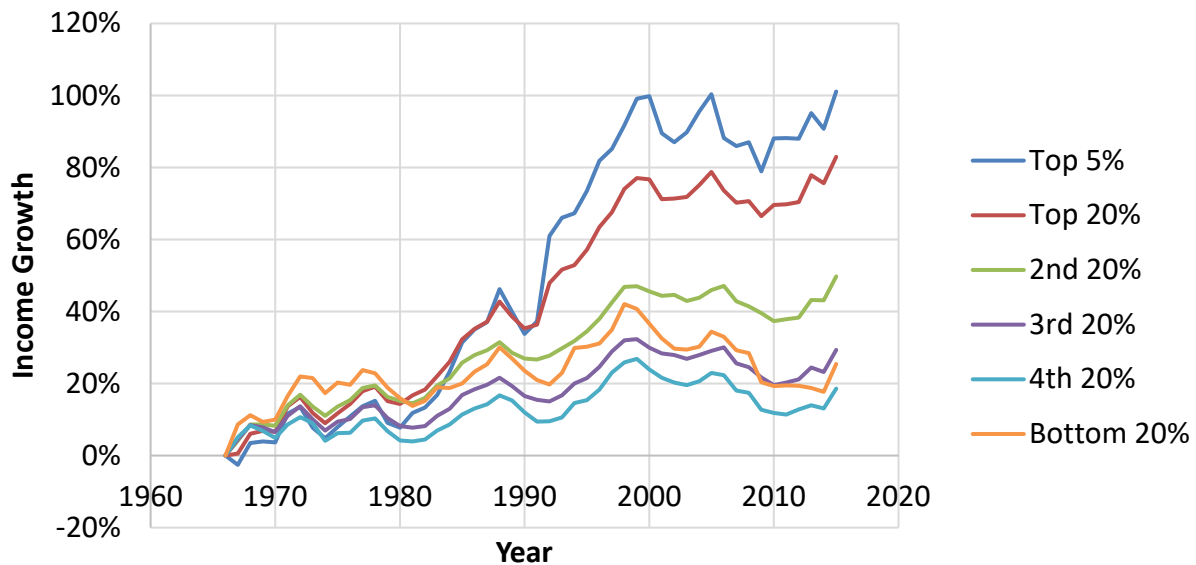


Sources: OECD and World Development Index, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2016	63	71	60	60	63	67
2015	63	71	60	60	63	67
2014	63	71	59	60	62	67
2013	63	71	59	60	61	68
2012	64	71	59	60	61	68
2011	64	71	59	60	61	67
2010	65	71	60	60	61	67
2009	65	71	60	59	61	67
2008	66	72	60	59	61	67
2007	66	72	60	59	62	66
2006	66	73	60	59	62	66
2005	66	73	60	58	62	65
2004	66	74	60	57	62	64
2003	66	75	61	57	61	64
2002	67	76	61	57	62	64
2001	67	77	62	58	61	65
2000	67	77	62	58	61	65
1999	67	78	63	58	61	65
1998	67	78	63	58	61	64
1997	67	79	64	58	62	65
1996	67	79	63	57	62	65
1995	67	79	63	57	62	64

Year	United States	China	Japan	Germany	South Korea	Singapore
1994	67	79	64	58	62	65
1993	66	79	64	58	61	65
1992	66	79	64	58	61	65
1991	66	79	64	59	61	65
1990	67	79	63	56	60	65
1989	66		63	56	60	63
1988	66		63	56	58	63
1987	66		63	55	58	63
1986	65		63	55	57	62
1985	65		63	55	57	62
1984	64		63	55	56	63
1983	64		64	56	58	64
1982	64	79	63	56	59	63
1981	64		63	56	59	
1980	64		63	55	59	63
1979	64		63	55		61
1978	63		63	55		60
1977	62		63	55		59
1976	62		63	56		58
1975	61		63	56		57
1974	61		64	57		
1973	61		65	57		
1972	60		64	57		
1971	60		65	57		
1970	60		65	58		56
1969	60		66			
1968	60		66			
1967	60		66			
1966	59		66			
1965	59		66			
1964	59		66			
1963	59		67			
1962	59		68			
1961	59		69			
1960	59		69			

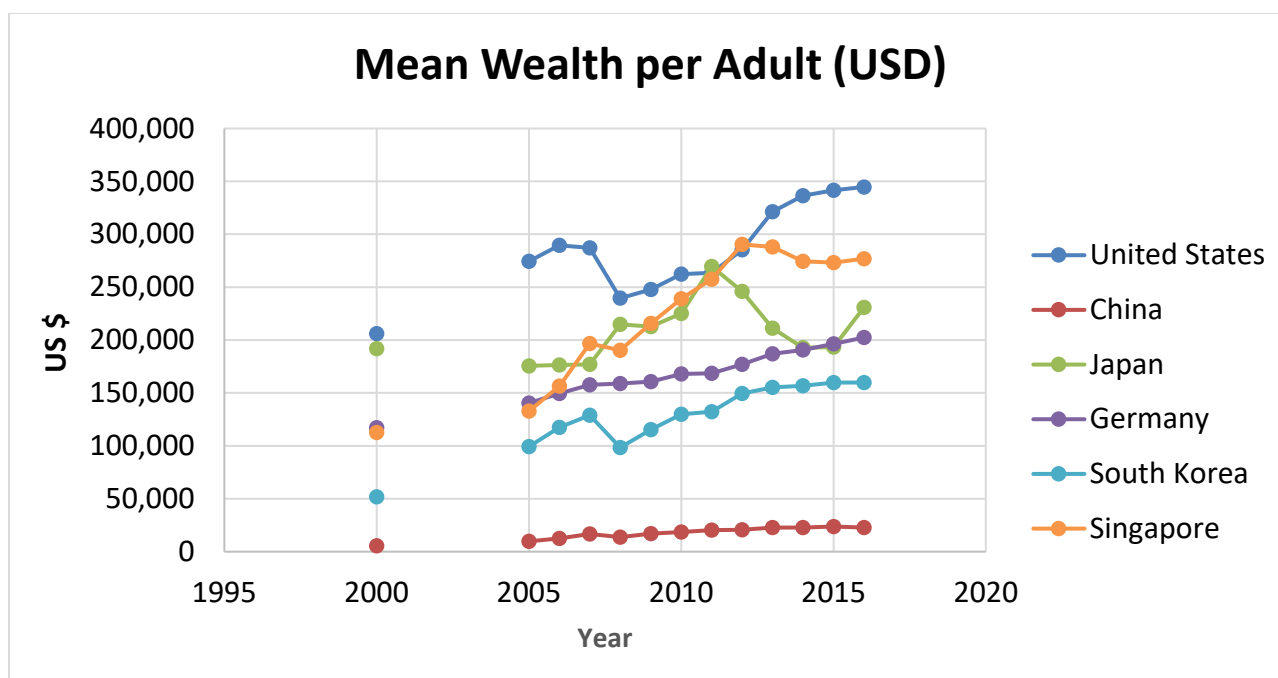
US Growth in Income Since 1966 by Quintile



Source: Census Bureau

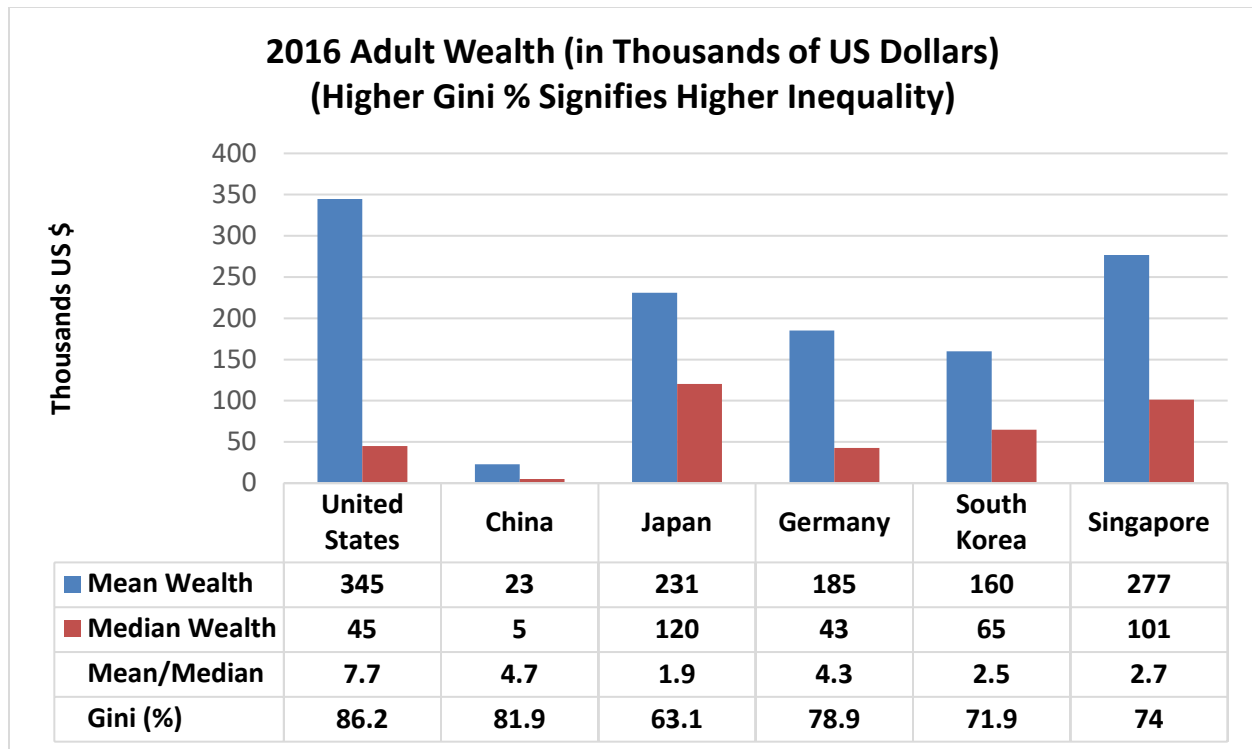
Year	Top 5%	Top 20%	2nd 20%	3rd 20%	4th 20%	Bottom 20%
2015	101%	83%	50%	29%	19%	25%
2014	91%	76%	43%	23%	13%	18%
2013	95%	78%	43%	24%	14%	19%
2012	88%	70%	38%	21%	13%	19%
2011	88%	70%	38%	20%	11%	19%
2010	88%	70%	37%	20%	12%	19%
2009	79%	66%	40%	22%	13%	20%
2008	87%	71%	41%	25%	17%	28%
2007	86%	70%	43%	26%	18%	29%
2006	88%	74%	47%	30%	22%	33%
2005	100%	79%	46%	29%	23%	34%
2004	96%	75%	44%	28%	21%	30%
2003	90%	72%	43%	27%	20%	29%
2002	87%	71%	45%	28%	20%	30%
2001	90%	71%	44%	28%	22%	33%
2000	100%	77%	46%	30%	24%	37%
1999	99%	77%	47%	32%	27%	41%
1998	92%	74%	47%	32%	26%	42%
1997	85%	68%	43%	29%	23%	35%
1996	82%	63%	38%	25%	18%	31%
1995	74%	57%	34%	22%	15%	30%

Year	Top 5%	Top 20%	2nd 20%	3rd 20%	4th 20%	Bottom 20%
1994	67%	53%	32%	20%	15%	30%
1993	66%	52%	30%	17%	11%	23%
1992	61%	48%	28%	15%	10%	20%
1991	37%	36%	27%	15%	9%	21%
1990	34%	35%	27%	17%	12%	24%
1989	40%	39%	29%	19%	15%	27%
1988	46%	43%	31%	22%	17%	30%
1987	37%	37%	29%	20%	14%	25%
1986	35%	35%	28%	18%	13%	23%
1985	31%	32%	26%	17%	11%	20%
1984	23%	26%	21%	13%	9%	19%
1983	17%	22%	19%	11%	7%	19%
1982	13%	18%	16%	8%	4%	15%
1981	12%	17%	15%	8%	4%	14%
1980	8%	14%	15%	8%	4%	16%
1979	9%	15%	16%	10%	7%	19%
1978	15%	19%	19%	14%	10%	23%
1977	14%	18%	19%	13%	10%	24%
1976	11%	14%	15%	10%	6%	20%
1975	8%	12%	14%	9%	6%	20%
1974	5%	9%	11%	7%	4%	17%
1973	8%	12%	14%	10%	9%	22%
1972	14%	16%	17%	14%	11%	22%
1971	12%	14%	14%	11%	9%	17%
1970	4%	7%	8%	7%	5%	10%
1969	4%	7%	9%	8%	7%	9%
1968	4%	6%	9%	8%	8%	11%
1967	-3%	1%	4%	4%	5%	9%
1966	0%	0%	0%	0%	0%	0%

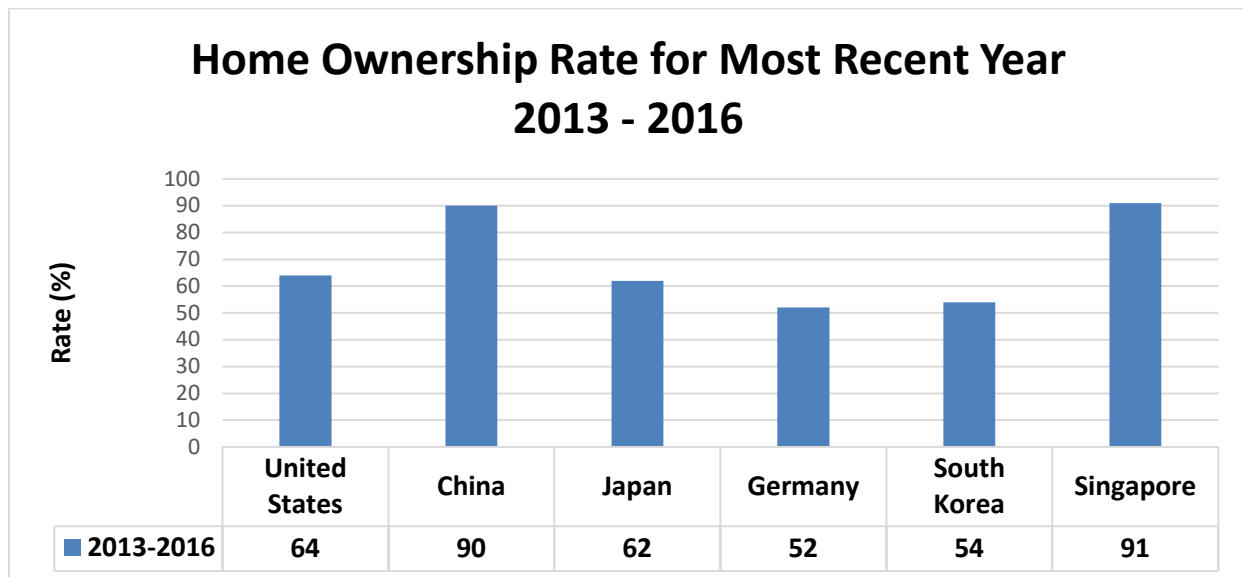


Source: Credit Suisse Global Wealth Databook 2016

Year	United States	China	Japan	Germany	South Korea	Singapore
2016	344,692	22,864	230,946	202,402	159,914	276,885
2015	341,609	23,751	193,448	196,253	159,705	273,085
2014	336,522	22,753	192,720	190,745	156,689	274,470
2013	321,397	22,904	211,190	187,147	155,144	288,098
2012	285,374	20,762	246,081	177,192	149,466	290,370
2011	263,555	20,345	269,485	168,629	132,140	257,582
2010	262,278	18,686	225,274	167,858	129,746	239,153
2009	247,893	17,029	212,586	160,569	115,434	215,737
2008	239,534	13,690	214,771	158,992	98,441	190,389
2007	287,096	16,643	177,062	157,579	128,887	196,692
2006	289,636	12,582	176,585	149,523	117,602	156,541
2005	274,509	9,770	175,634	140,388	99,303	132,774
2000	206,116	5,672	191,877	117,149	51,749	112,757

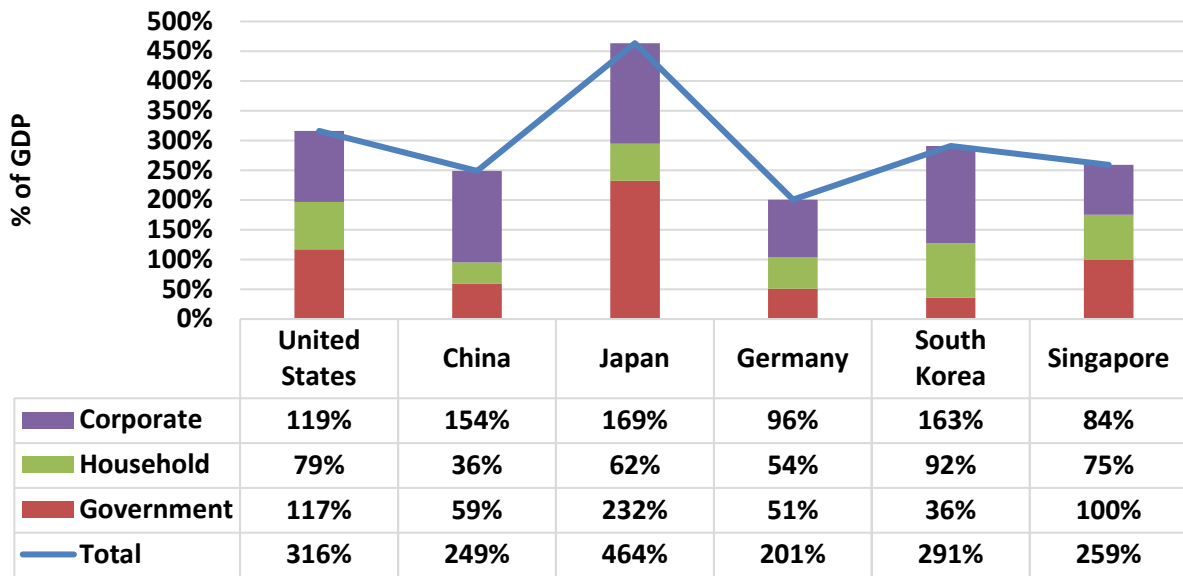


Source: Credit Suisse Global Wealth Databook 2016



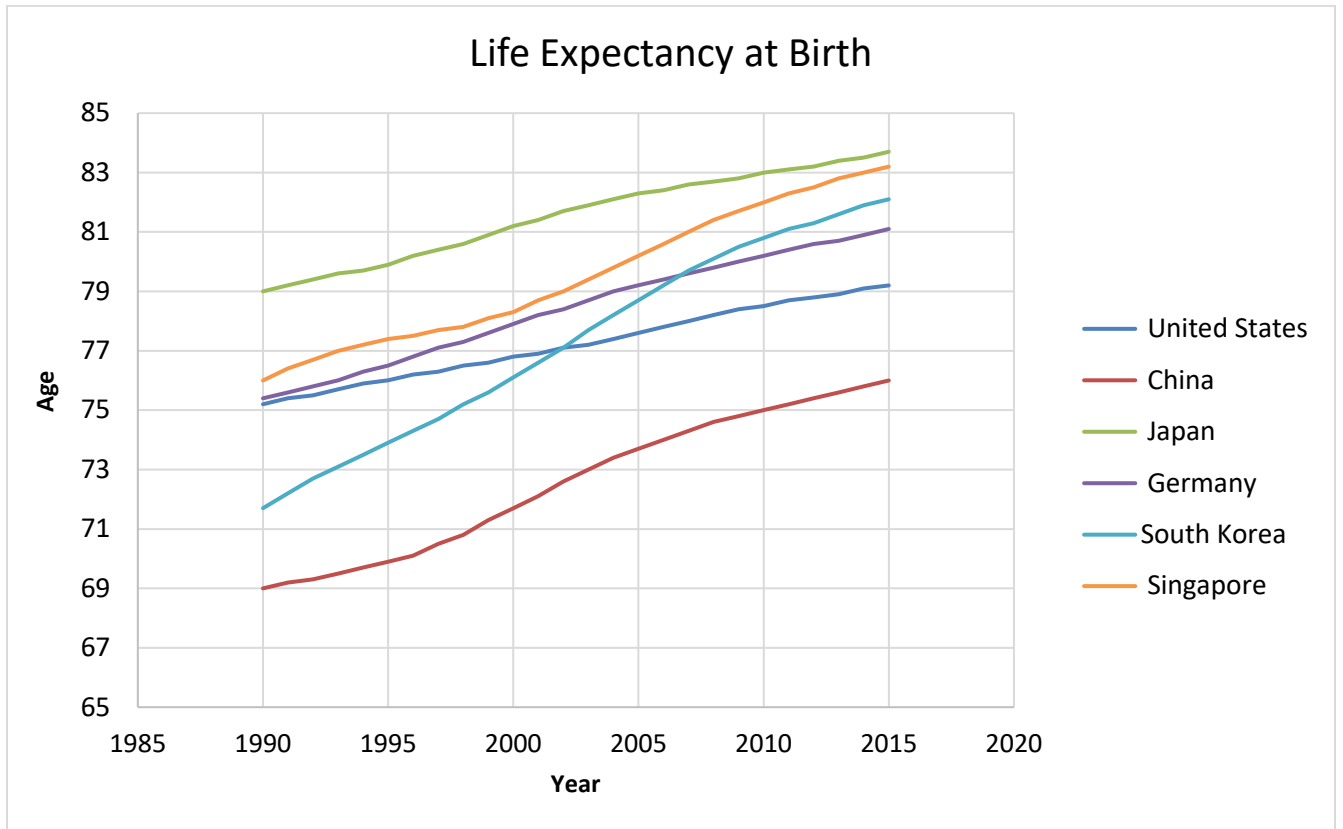
Source: Trading Economics

Estimate of Debt and its Components, % of GDP (Aggregated from 2015 - 2016)



Sources: OECD, Bank for International Settlements

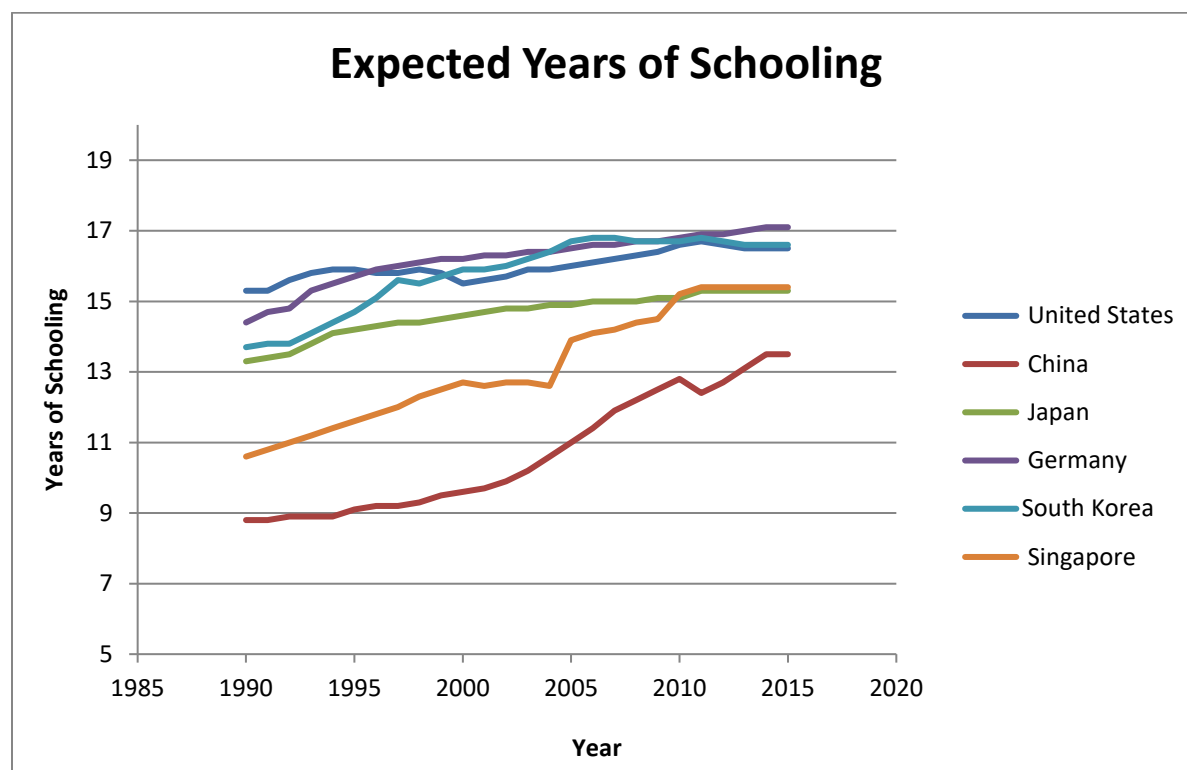
Appendix D: Social Data



Source: United Nations Development Program

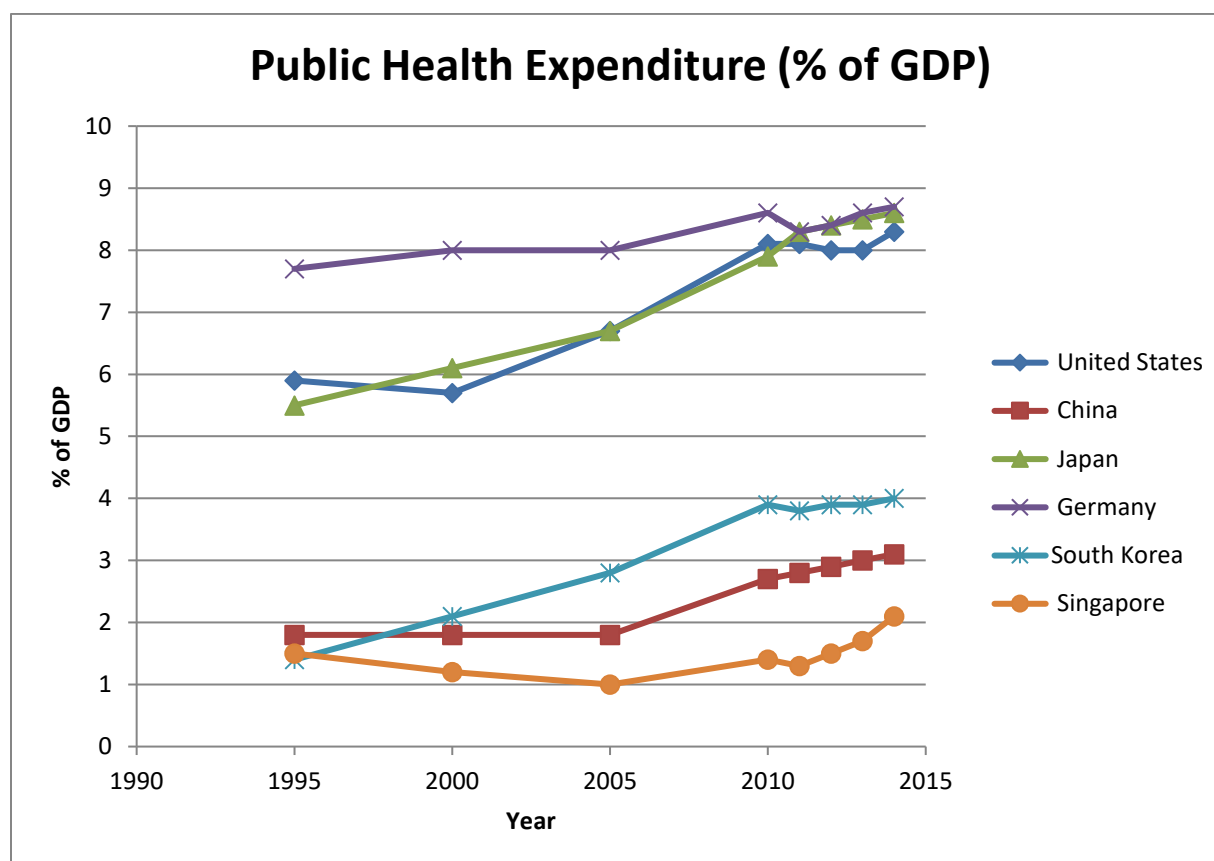
Year	United States	China	Japan	Germany	South Korea	Singapore
2015	79.2	76	83.7	81.1	82.1	83.2
2014	79.1	75.8	83.5	80.9	81.9	83
2013	78.9	75.6	83.4	80.7	81.6	82.8
2012	78.8	75.4	83.2	80.6	81.3	82.5
2011	78.7	75.2	83.1	80.4	81.1	82.3
2010	78.5	75	83	80.2	80.8	82
2009	78.4	74.8	82.8	80	80.5	81.7
2008	78.2	74.6	82.7	79.8	80.1	81.4
2007	78	74.3	82.6	79.6	79.7	81
2006	77.8	74	82.4	79.4	79.2	80.6
2005	77.6	73.7	82.3	79.2	78.7	80.2
2004	77.4	73.4	82.1	79	78.2	79.8
2003	77.2	73	81.9	78.7	77.7	79.4
2002	77.1	72.6	81.7	78.4	77.1	79
2001	76.9	72.1	81.4	78.2	76.6	78.7

Year	United States	China	Japan	Germany	South Korea	Singapore
2000	76.8	71.7	81.2	77.9	76.1	78.3
1999	76.6	71.3	80.9	77.6	75.6	78.1
1998	76.5	70.8	80.6	77.3	75.2	77.8
1997	76.3	70.5	80.4	77.1	74.7	77.7
1996	76.2	70.1	80.2	76.8	74.3	77.5
1995	76	69.9	79.9	76.5	73.9	77.4
1994	75.9	69.7	79.7	76.3	73.5	77.2
1993	75.7	69.5	79.6	76	73.1	77
1992	75.5	69.3	79.4	75.8	72.7	76.7
1991	75.4	69.2	79.2	75.6	72.2	76.4
1990	75.2	69	79	75.4	71.7	76



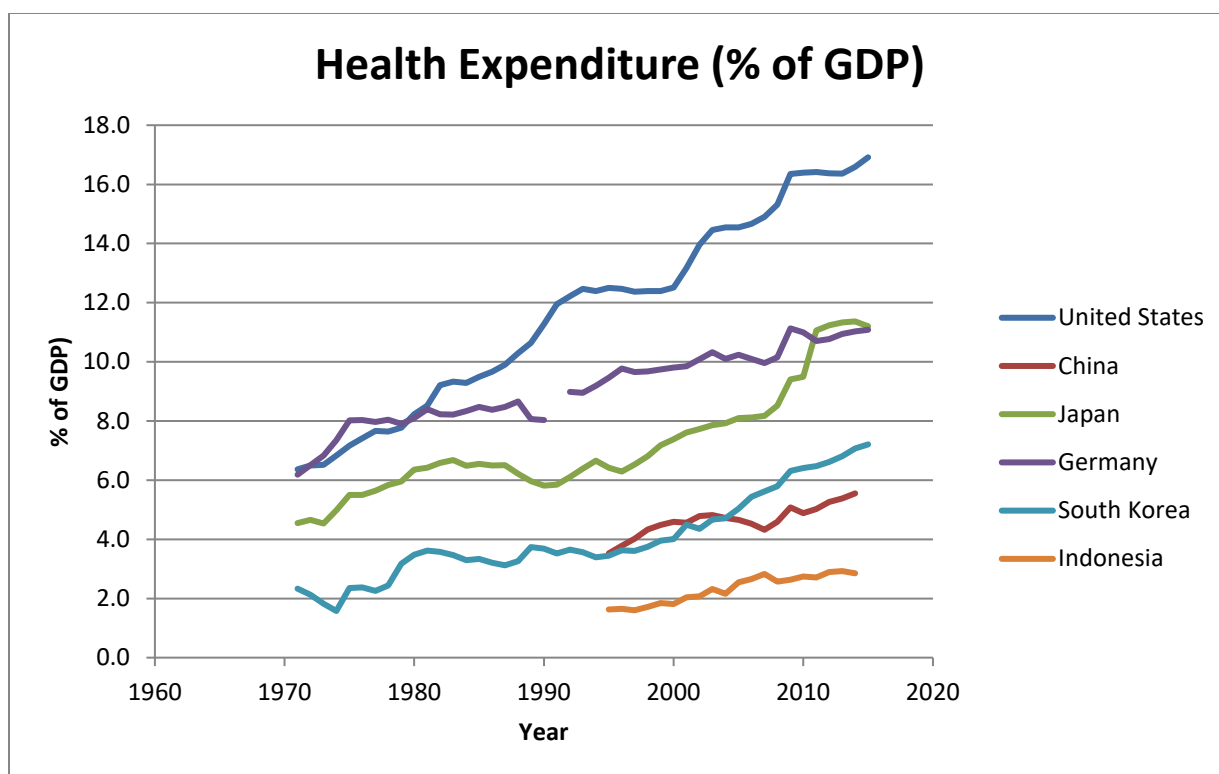
Source: United Nations Development Program

Year	United States	China	Japan	Germany	South Korea	Singapore
2015	16.5	13.5	15.3	17.1	16.6	15.4
2014	16.5	13.5	15.3	17.1	16.6	15.4
2013	16.5	13.1	15.3	17	16.6	15.4
2012	16.6	12.7	15.3	16.9	16.7	15.4
2011	16.7	12.4	15.3	16.9	16.8	15.4
2010	16.6	12.8	15.1	16.8	16.7	15.2
2009	16.4	12.5	15.1	16.7	16.7	14.5
2008	16.3	12.2	15	16.7	16.7	14.4
2007	16.2	11.9	15	16.6	16.8	14.2
2006	16.1	11.4	15	16.6	16.8	14.1
2005	16	11	14.9	16.5	16.7	13.9
2004	15.9	10.6	14.9	16.4	16.4	12.6
2003	15.9	10.2	14.8	16.4	16.2	12.7
2002	15.7	9.9	14.8	16.3	16	12.7
2001	15.6	9.7	14.7	16.3	15.9	12.6
2000	15.5	9.6	14.6	16.2	15.9	12.7
1999	15.8	9.5	14.5	16.2	15.7	12.5
1998	15.9	9.3	14.4	16.1	15.5	12.3
1997	15.8	9.2	14.4	16	15.6	12
1996	15.8	9.2	14.3	15.9	15.1	11.8
1995	15.9	9.1	14.2	15.7	14.7	11.6
1994	15.9	8.9	14.1	15.5	14.4	11.4
1993	15.8	8.9	13.8	15.3	14.1	11.2
1992	15.6	8.9	13.5	14.8	13.8	11
1991	15.3	8.8	13.4	14.7	13.8	10.8
1990	15.3	8.8	13.3	14.4	13.7	10.6



Source: United Nations Development Program

Country	United States	China	Japan	Germany	South Korea	Singapore
2014	8.3	3.1	8.6	8.7	4	2.1
2013	8	3	8.5	8.6	3.9	1.7
2012	8	2.9	8.4	8.4	3.9	1.5
2011	8.1	2.8	8.3	8.3	3.8	1.3
2010	8.1	2.7	7.9	8.6	3.9	1.4
2005	6.7	1.8	6.7	8	2.8	1
2000	5.7	1.8	6.1	8	2.1	1.2
1995	5.9	1.8	5.5	7.7	1.4	1.5

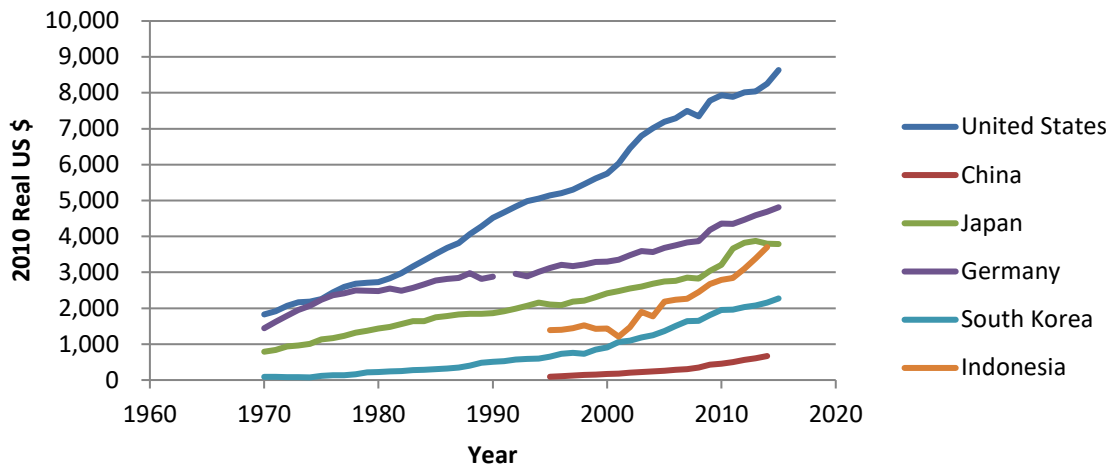


Source: OECD Health Statistics

Year	United States	China	Japan	Germany	South Korea	Indonesia
2015	16.9		11.2	11.1	7.2	
2014	16.6	5.6	11.4	11.0	7.1	2.8
2013	16.4	5.4	11.3	10.9	6.8	2.9
2012	16.4	5.3	11.2	10.8	6.6	2.9
2011	16.4	5.0	11.1	10.7	6.5	2.7
2010	16.4	4.9	9.5	11.0	6.4	2.7
2009	16.4	5.1	9.4	11.1	6.3	2.6
2008	15.3	4.6	8.5	10.1	5.8	2.6
2007	14.9	4.3	8.2	10.0	5.6	2.8
2006	14.7	4.5	8.1	10.1	5.4	2.7
2005	14.5	4.7	8.1	10.2	5.0	2.5
2004	14.5	4.7	7.9	10.1	4.7	2.2
2003	14.5	4.8	7.9	10.3	4.7	2.3
2002	14.0	4.8	7.7	10.1	4.4	2.1
2001	13.2	4.6	7.6	9.8	4.5	2.0
2000	12.5	4.6	7.4	9.8	4.0	1.8
1999	12.4	4.5	7.2	9.7	4.0	1.8
1998	12.4	4.3	6.8	9.7	3.8	1.7
1997	12.4	4.0	6.5	9.7	3.6	1.6

Year	United States	China	Japan	Germany	South Korea	Indonesia
1996	12.5	3.8	6.3	9.8	3.6	1.7
1995	12.5	3.5	6.4	9.5	3.4	1.6
1994	12.4		6.7	9.2	3.4	
1993	12.5		6.4	9.0	3.6	
1992	12.2		6.1	9.0	3.6	
1991	11.9		5.9		3.5	
1990	11.3		5.8	8.0	3.7	
1989	10.6		6.0	8.1	3.7	
1988	10.3		6.2	8.7	3.3	
1987	9.9		6.5	8.5	3.1	
1986	9.7		6.5	8.4	3.2	
1985	9.5		6.5	8.5	3.3	
1984	9.3		6.5	8.3	3.3	
1983	9.3		6.7	8.2	3.5	
1982	9.2		6.6	8.2	3.6	
1981	8.5		6.4	8.4	3.6	
1980	8.2		6.4	8.1	3.5	
1979	7.8		6.0	7.9	3.2	
1978	7.6		5.8	8.0	2.4	
1977	7.7		5.6	8.0	2.3	
1976	7.4		5.5	8.0	2.4	
1975	7.2		5.5	8.0	2.4	
1974	6.8		5.0	7.4	1.6	
1973	6.5		4.5	6.8	1.8	
1972	6.5		4.7	6.5	2.1	
1971	6.4		4.5	6.2	2.3	
1970	6.2		4.4	5.7	2.7	

Health Spending per Person (2010 Real US \$) Purchasing Parity Adjusted



Sources:

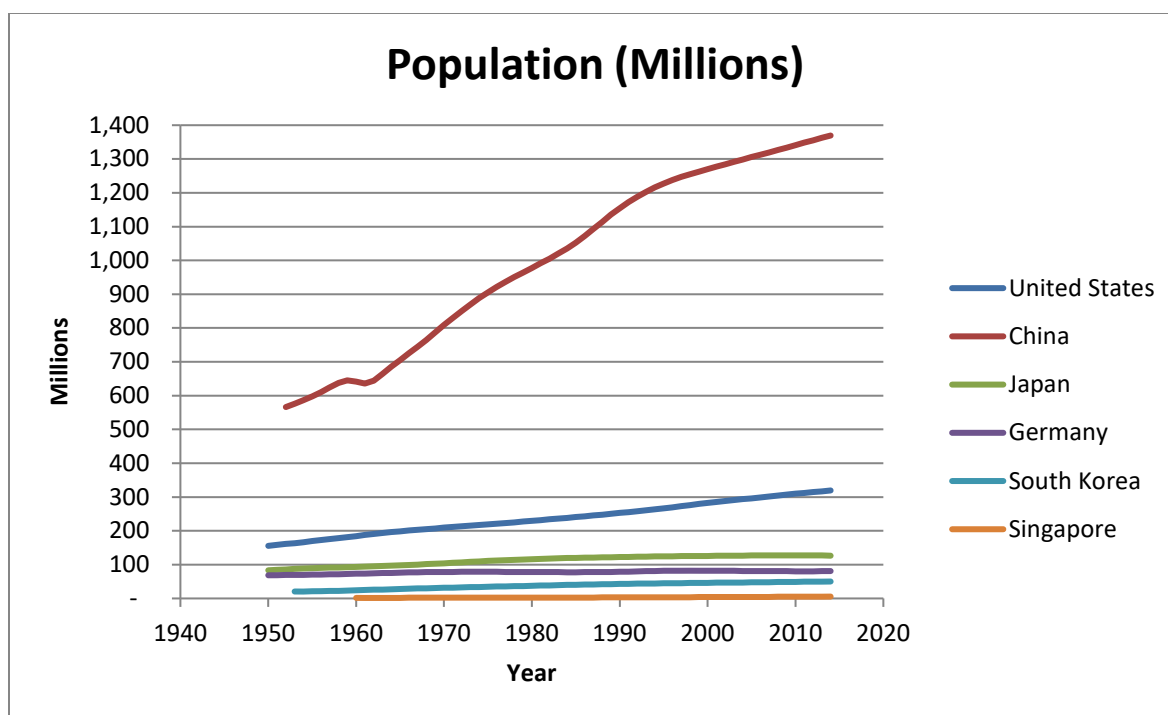
OECD Health Statistics

World Health Organization (Singapore)

Consumer Price Index: Bureau of Labor Statistics

Year	United States	China	Japan	Germany	South Korea	Indonesia
2015	8,634		3,791	4,812	2,273	
2014	8,258	668	3,800	4,684	2,161	3,703
2013	8,042	611	3,875	4,593	2,076	3,389
2012	8,015	560	3,822	4,467	2,029	3,101
2011	7,885	497	3,666	4,352	1,959	2,840
2010	7,929	450	3,205	4,359	1,951	2,792
2009	7,780	425	3,036	4,182	1,813	2,677
2008	7,348	344	2,828	3,867	1,648	2,453
2007	7,497	307	2,851	3,832	1,640	2,261
2006	7,295	282	2,764	3,752	1,507	2,240
2005	7,192	262	2,749	3,679	1,361	2,185
2004	7,017	240	2,679	3,568	1,245	1,770
2003	6,802	224	2,607	3,596	1,183	1,903
2002	6,449	204	2,548	3,474	1,095	1,471
2001	6,031	179	2,481	3,353	1,059	1,208
2000	5,752	168	2,416	3,296	914	1,437
1999	5,613	154	2,310	3,286	847	1,426

Year	United States	China	Japan	Germany	South Korea	Indonesia
1998	5,457	140	2,213	3,214	732	1,526
1997	5,306	122	2,184	3,172	756	1,446
1996	5,204	106	2,085	3,210	727	1,404
1995	5,144	92	2,101	3,124	655	1,390
1994	5,057		2,158	3,011	598	
1993	4,982		2,070	2,892	585	
1992	4,832		1,991	2,961	569	
1991	4,667		1,914		527	
1990	4,515		1,867	2,878	510	
1989	4,276		1,843	2,820	481	
1988	4,067		1,848	2,980	400	
1987	3,813		1,824	2,845	348	
1986	3,679		1,781	2,813	325	
1985	3,509		1,746	2,775	305	
1984	3,331		1,642	2,668	284	
1983	3,169		1,641	2,565	276	
1982	2,973		1,556	2,483	251	
1981	2,836		1,482	2,547	239	
1980	2,732		1,436	2,481	221	
1979	2,711		1,369	2,483	216	
1978	2,684		1,317	2,498	159	
1977	2,596		1,229	2,415	136	
1976	2,439		1,167	2,365	130	
1975	2,256		1,132	2,235	116	
1974	2,185		1,010	2,069	73	
1973	2,162		965	1,951	81	
1972	2,066		933	1,788	83	
1971	1,918		841	1,618	86	
1970	1,828		789	1,443	91	



Source: Penn World Tables

Year	United States	China	Japan	Germany	South Korea	Singapore
2014	319	1,369	127	81	50	5.5
2013	317	1,363	127	81	50	5.4
2012	315	1,355	127	80	50	5.3
2011	312	1,348	127	80	49	5.2
2010	310	1,341	127	80	49	5.1
2009	307	1,334	127	81	49	5.0
2008	304	1,327	127	81	49	4.8
2007	302	1,320	127	81	48	4.7
2006	299	1,313	127	81	48	4.6
2005	296	1,306	127	81	48	4.5
2004	294	1,299	127	81	47	4.4
2003	291	1,291	127	82	47	4.3
2002	288	1,284	126	82	47	4.1
2001	286	1,277	126	82	46	4.0
2000	283	1,270	126	82	46	3.9
1999	280	1,263	125	82	46	3.8
1998	276	1,255	125	82	46	3.7
1997	273	1,247	125	82	45	3.7
1996	269	1,238	125	82	45	3.6
1995	266	1,228	124	82	45	3.5
1994	263	1,216	124	81	44	3.4

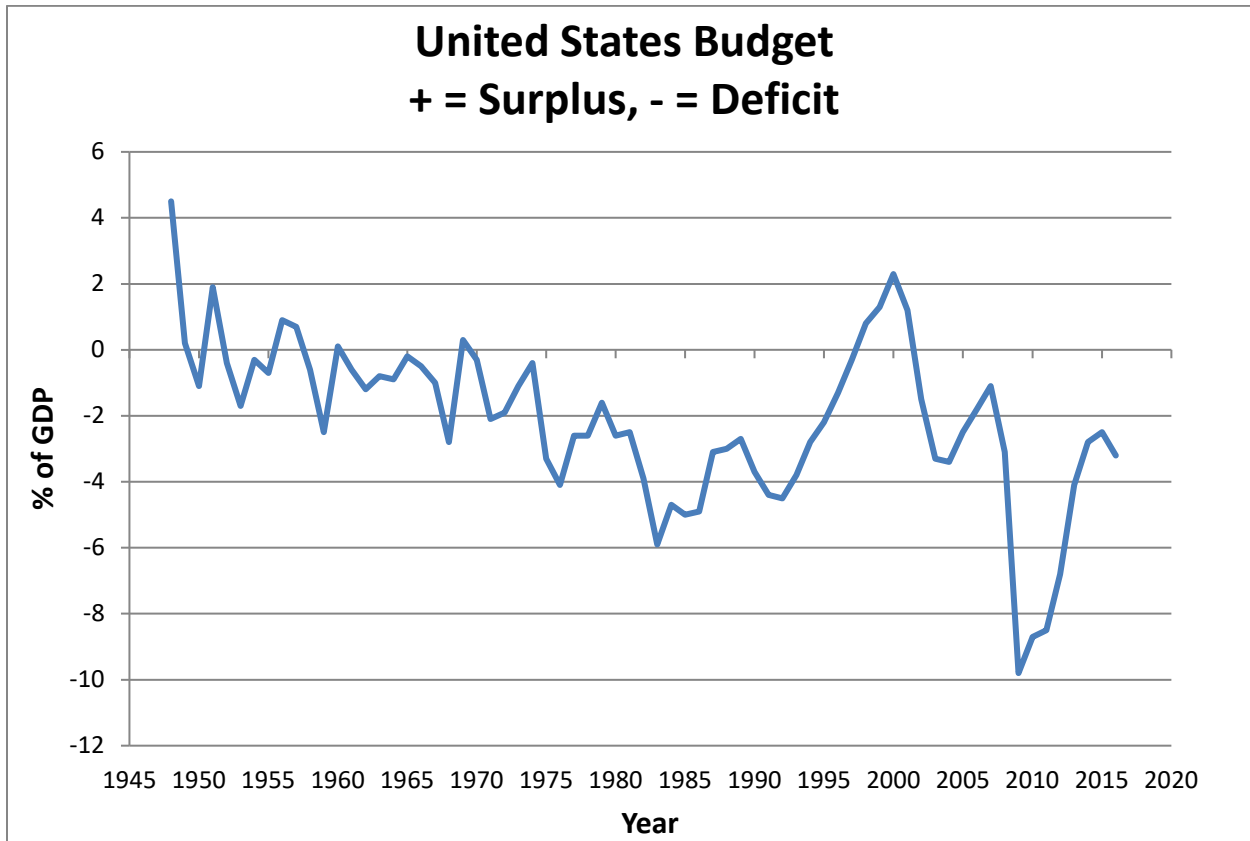
Year	United States	China	Japan	Germany	South Korea	Singapore
1993	261	1,203	124	81	44	3.3
1992	258	1,188	123	80	44	3.2
1991	255	1,172	123	79	43	3.1
1990	253	1,155	122	79	43	3.0
1989	250	1,135	122	79	43	2.9
1988	248	1,114	121	78	42	2.9
1987	245	1,093	121	78	42	2.8
1986	243	1,072	121	78	41	2.8
1985	241	1,053	120	78	41	2.7
1984	238	1,035	119	78	40	2.6
1983	236	1,020	119	78	39	2.6
1982	234	1,005	118	78	39	2.5
1981	232	992	117	78	38	2.5
1980	230	978	116	78	37	2.4
1979	227	964	115	78	37	2.4
1978	225	951	114	78	36	2.3
1977	223	937	113	79	36	2.3
1976	221	922	112	79	35	2.3
1975	219	906	111	79	35	2.3
1974	217	888	109	79	34	2.2
1973	215	869	108	79	33	2.2
1972	213	850	107	79	33	2.2
1971	211	829	105	79	32	2.1
1970	209	809	104	78	31	2.1
1969	207	787	103	78	31	2.0
1968	205	765	101	78	30	2.0
1967	203	744	100	77	29	2.0
1966	201	725	99	77	29	1.9
1965	199	705	98	76	28	1.9
1964	196	686	97	76	27	1.8
1963	193	664	96	75	27	1.8
1962	191	644	95	74	26	1.7
1961	188	635	94	74	25	1.7
1960	185	641	94	73	24	1.6
1959	182	645	93	72	23	
1958	179	637	92	72	23	
1957	176	624	91	71	22	
1956	173	610	90	71	21	
1955	170	598	89	71	21	
1954	167	586	88	70	21	
1953	164	576	87	70	21	
1952	161	566	86	69		

Year	United States	China	Japan	Germany	South Korea	Singapore
1951	158		85	69		
1950	156		83	69		

Health Care Structure, Select Countries

Country	Year Implemented	Plan	Source
United States	2010	Mandatory Health Coverage - Medicare/Medicaid for applicable groups. - Mandatory insurance - Low-income subsidies - State Level for profit insurance pools	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
China	1980 in decentralized form	Universal Health Coverage - Public financed insurance - Local governments administer - Low income safety net	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
Japan	1961	Universal Health Coverage - Subsidies to providers/insurers - Patients have minor co-pay - Fees set by government	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
Germany	1993 in its current form, but the system dates back to 1883	Mandatory Health Coverage - Mandatory insurance - Non-profit competing insurers - Pay-roll/unemployment deduction to pay system and safety-nets	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/
South Korea	1977 with universal coverage by 1989	Universal Health Coverage - Single payer - Decentralized operations	Republic of Korea Health System Review, Health Systems in Transition, Vol. 5, No. 4, 2015, accessed at: www.wpro.who.int/asia_pacific_observatory/hits/series/korea_health_systems_review.pdf?ua=1
Singapore	1983	Universal Health Coverage - Income dependent subsidies - Mandatory savings - Price controls	The Commonwealth Fund at international.commonwealthfund.org/countries/singapore/

Appendix E: Government Data

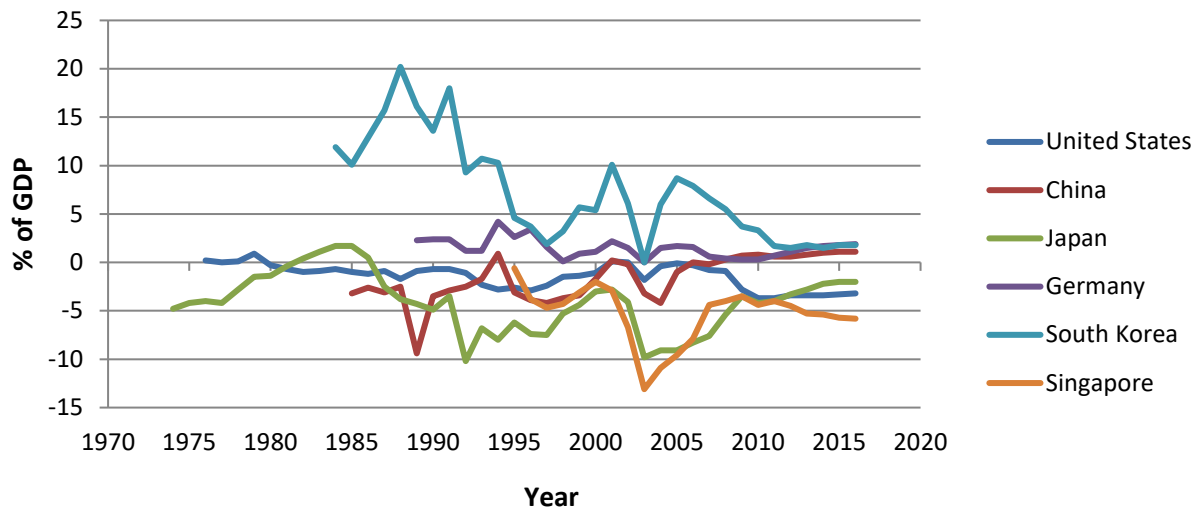


Source: United States Treasury

Year	Budget as % of GDP	Year	Budget as % of GDP	Year	Budget as % of GDP
2016	-3.2	1993	-3.8	1970	-0.3
2015	-2.5	1992	-4.5	1969	0.3
2014	-2.8	1991	-4.4	1968	-2.8
2013	-4.1	1990	-3.7	1967	-1
2012	-6.8	1989	-2.7	1966	-0.5
2011	-8.5	1988	-3	1965	-0.2
2010	-8.7	1987	-3.1	1964	-0.9
2009	-9.8	1986	-4.9	1963	-0.8
2008	-3.1	1985	-5	1962	-1.2
2007	-1.1	1984	-4.7	1961	-0.6
2006	-1.8	1983	-5.9	1960	0.1
2005	-2.5	1982	-3.9	1959	-2.5
2004	-3.4	1981	-2.5	1958	-0.6
2003	-3.3	1980	-2.6	1957	0.7
2002	-1.5	1979	-1.6	1956	0.9
2001	1.2	1978	-2.6	1955	-0.7
2000	2.3	1977	-2.6	1954	-0.3
1999	1.3	1976	-4.1	1953	-1.7
1998	0.8	1975	-3.3	1952	-0.4
1997	-0.3	1974	-0.4	1951	1.9
1996	-1.3	1973	-1.1	1950	-1.1
1995	-2.2	1972	-1.9	1949	0.2
1994	-2.8	1971	-2.1	1948	4.5

National Budget, % GDP

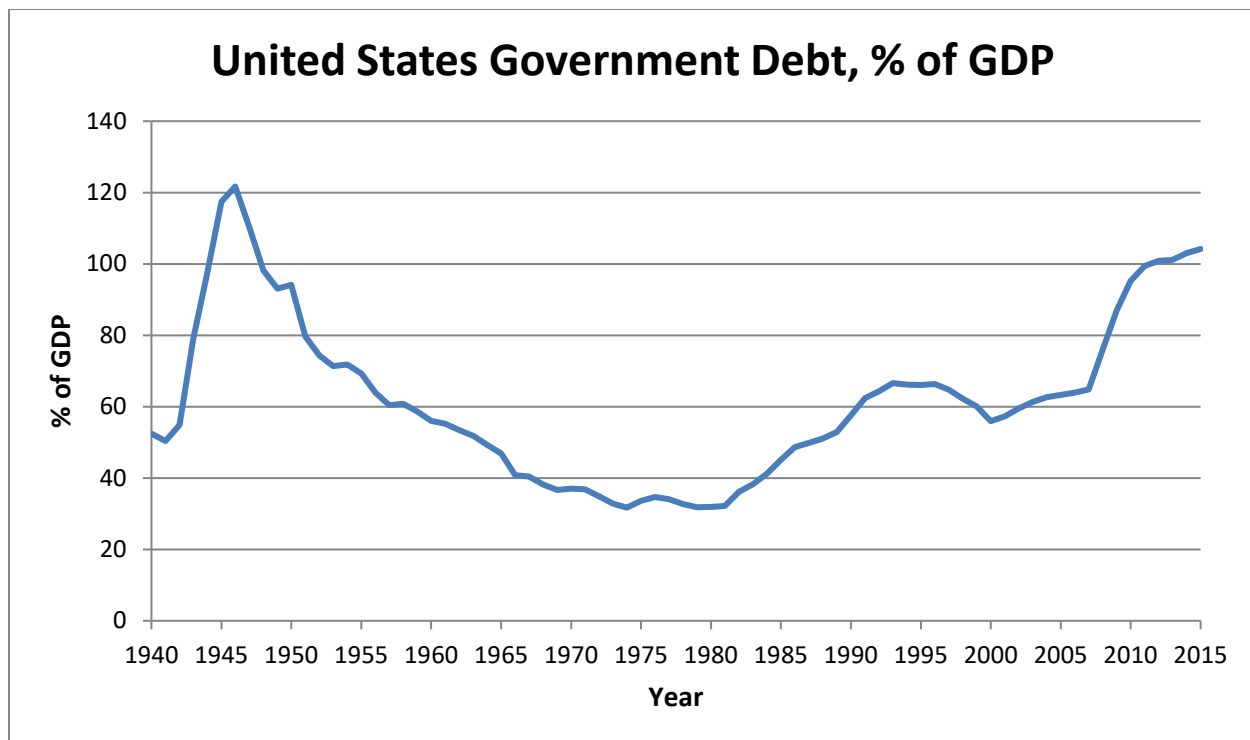
+ = surplus, - = deficit



Source: International Monetary Fund

Year	United States	China	Japan	Germany	South Korea	Singapore
2016	-3.2	1.1	-2	1.9	1.8	-5.8
2015	-3.3	1.1	-2	1.8	1.8	-5.7
2014	-3.4	1	-2.2	1.7	1.5	-5.4
2013	-3.4	0.8	-2.8	1.5	1.8	-5.3
2012	-3.4	0.6	-3.3	1.1	1.5	-4.5
2011	-3.7	0.6	-4	0.7	1.7	-4
2010	-3.7	0.8	-4.2	0.3	3.3	-4.4
2009	-2.8	0.7	-3.5	0.3	3.7	-3.5
2008	-0.9	0.3	-5.4	0.4	5.5	-4
2007	-0.8	-0.2	-7.6	0.6	6.6	-4.4
2006	-0.3	0	-8.3	1.6	7.9	-7.9
2005	-0.1	-1	-9.1	1.7	8.7	-9.6
2004	-0.4	-4.2	-9.1	1.5	6	-10.9
2003	-1.8	-3.2	-9.8	0	0	-13.1
2002	0	-0.2	-4.1	1.5	6.1	-6.7
2001	0.1	0.2	-2.8	2.2	10.1	-2.9
2000	-1.1	-1.7	-3	1.1	5.4	-2
1999	-1.4	-3.4	-4.4	0.9	5.7	-3.1
1998	-1.5	-3.7	-5.3	0.1	3.2	-4.3
1997	-2.4	-4.2	-7.5	1.6	1.9	-4.7

Year	United States	China	Japan	Germany	South Korea	Singapore
1996	-2.9	-3.9	-7.4	3.4	3.7	-3.8
1995	-2.6	-3.1	-6.2	2.6	4.6	-0.6
1994	-2.8	0.9	-8	4.2	10.3	
1993	-2.3	-1.7	-6.8	1.2	10.7	
1992	-1.1	-2.5	-10.2	1.2	9.3	
1991	-0.7	-2.9	-3.5	2.4	18	
1990	-0.7	-3.5	-4.9	2.4	13.6	
1989	-0.9	-9.4	-4.3	2.3	16.1	
1988	-1.7	-2.5	-3.8		20.2	
1987	-0.9	-3.1	-2.5		15.7	
1986	-1.2	-2.6	0.5		12.9	
1985	-1	-3.2	1.7		10.1	
1984	-0.7		1.7		11.9	
1983	-0.9		1.1			
1982	-1		0.4			
1981	-0.7		-0.4			
1980	-0.3		-1.4			
1979	0.9		-1.5			
1978	0.1		-2.8			
1977	0		-4.2			
1976	0.2		-4			
1975			-4.2			
1974			-4.8			

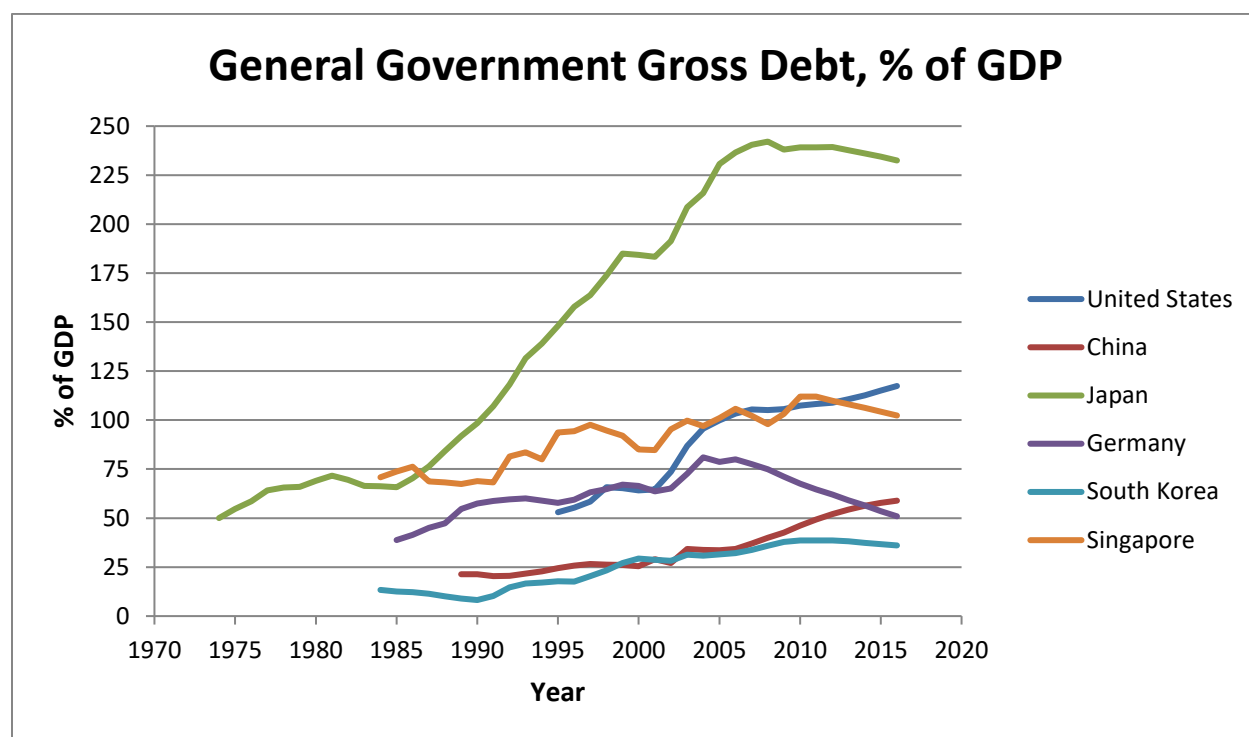


Source: US Bureau of Public Debt

Year	Debt as % of GDP
2015	104.17
2014	102.98
2013	101.17
2012	100.83
2011	99.4
2010	95.2
2009	87.1
2008	76
2007	64.8
2006	63.9
2005	63.3
2004	62.7
2003	61.3
2002	59.5
2001	57.3
2000	55.9
1999	60.1
1998	62.2
1997	64.7
1996	66.3

Year	Debt as % of GDP
1995	66.1
1994	66.2
1993	66.6
1992	64.3
1991	62.4
1990	57.6
1989	52.9
1988	51.1
1987	49.8
1986	48.7
1985	45.1
1984	41.2
1983	38.3
1982	36.1
1981	32.2
1980	31.9
1979	31.8
1978	32.7
1977	34.1
1976	34.7
1975	33.6
1974	31.7
1973	32.8
1972	34.9
1971	36.8
1970	37
1969	36.7
1968	38.2
1967	40.4
1966	40.8
1965	46.9
1964	49.3
1963	51.8
1962	53.4
1961	55.2
1960	56
1959	58.6
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1956	63.9
1955	69.3
1954	71.8

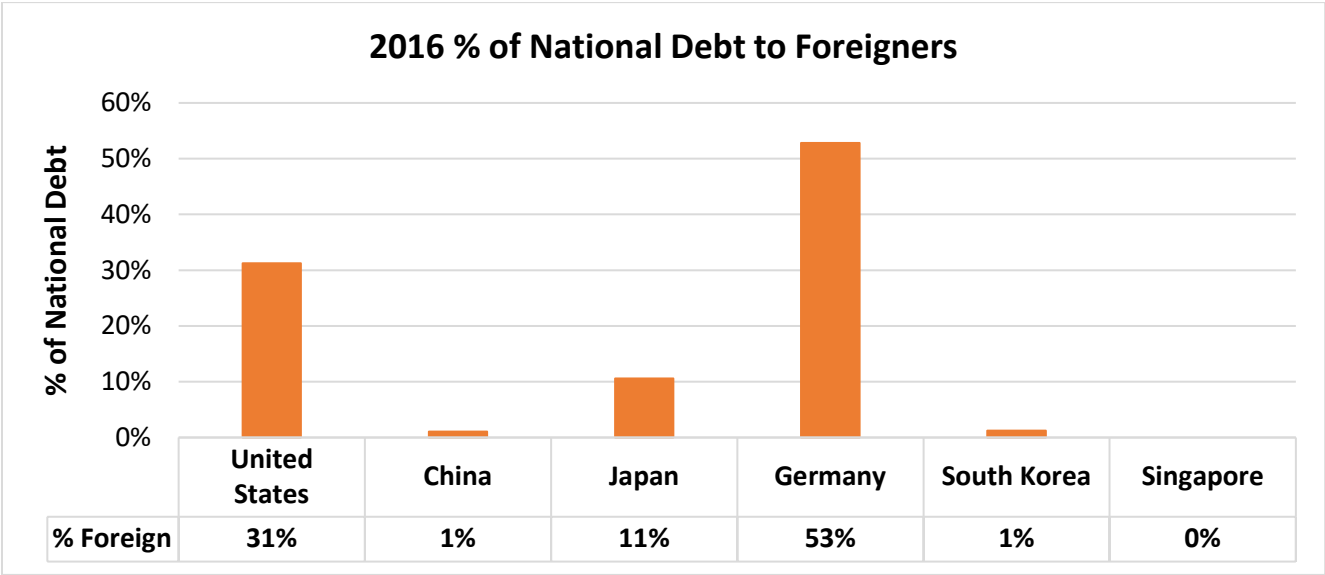
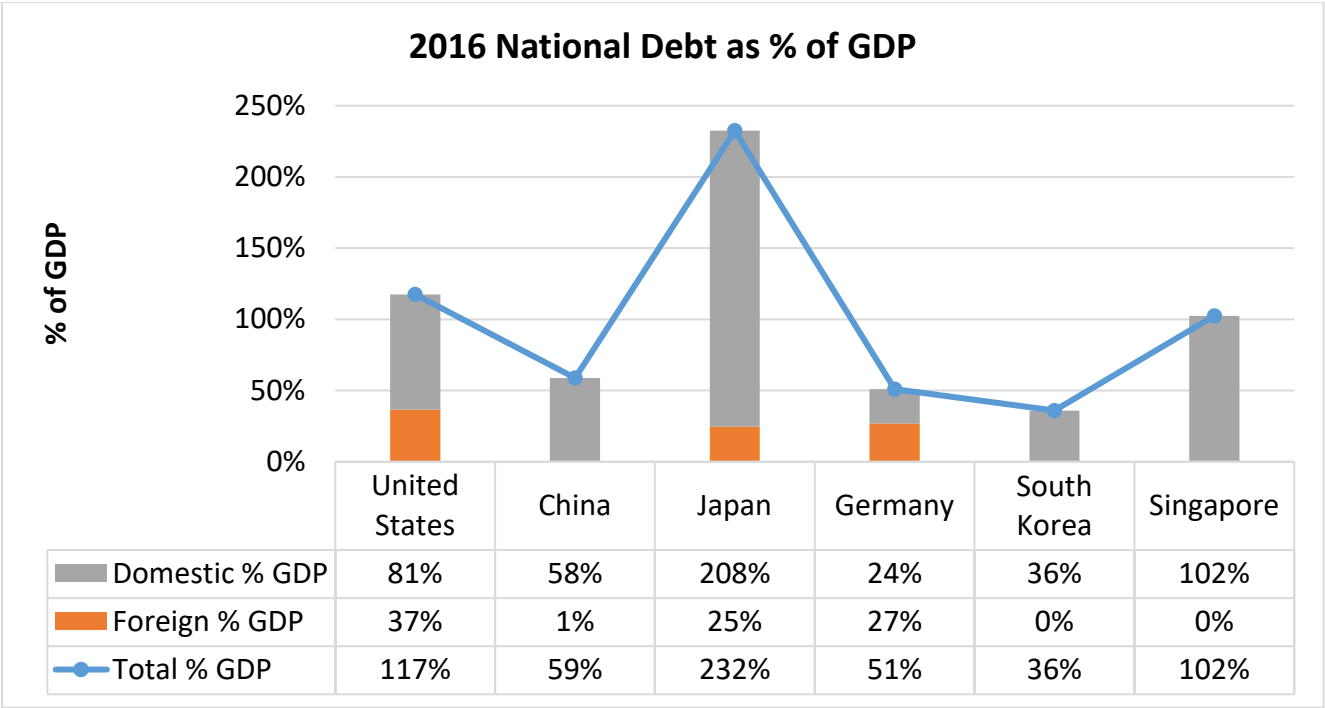
Year	Debt as % of GDP
1953	71.4
1952	74.3
1951	79.7
1950	94.1
1949	93.1
1948	98.2
1947	110.3
1946	121.7
1945	117.5
1944	97.6
1943	79.1
1942	54.9
1941	50.4
1940	52.4

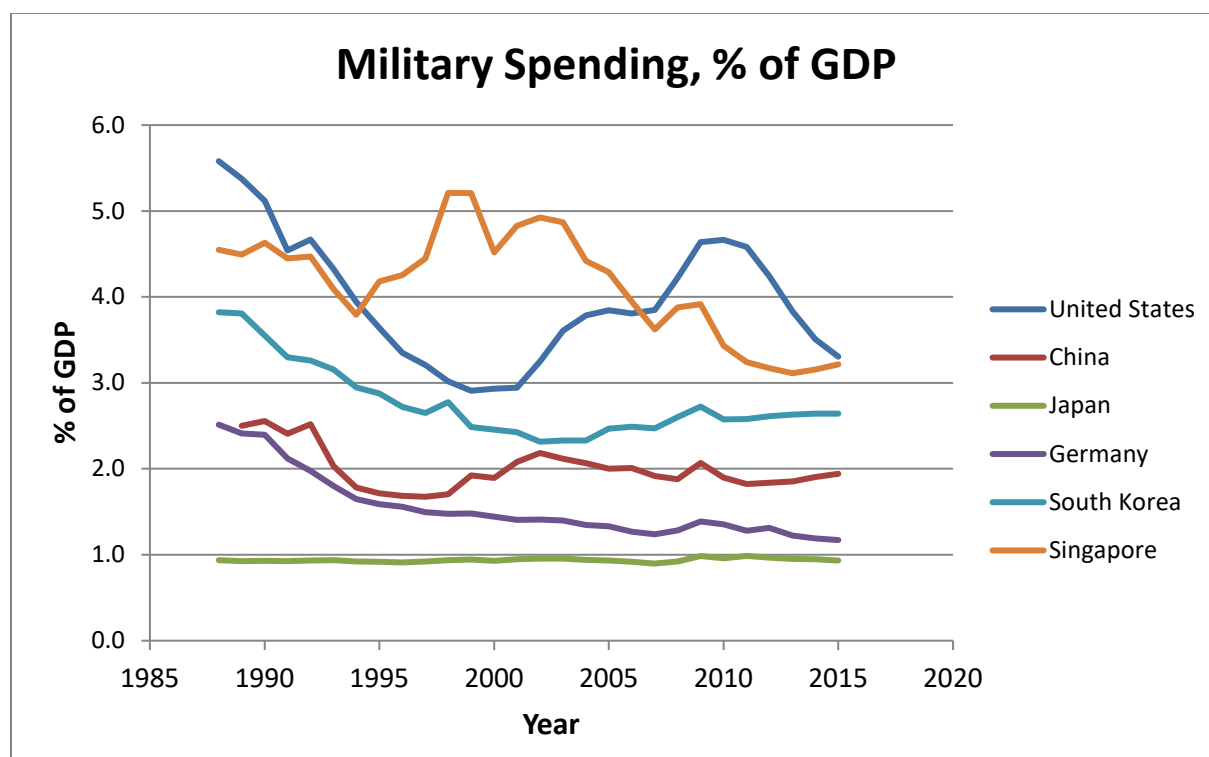


Source: International Monetary Fund

Year	United States	China	Japan	Germany	South Korea	Singapore
2016	117.4	58.9	232.4	50.9	36	102.4
2015	115.1	57.7	234.4	53.6	36.7	104.3
2014	112.7	56.3	236.1	56.4	37.4	106.2
2013	110.6	54.4	237.7	59.1	38.2	108.1

Year	United States	China	Japan	Germany	South Korea	Singapore
2012	108.9	52	239.4	62	38.6	109.8
2011	108.3	49.3	239.2	64.7	38.6	112
2010	107.4	46.2	239.2	67.6	38.6	112
2009	105.6	42.6	238	71.2	37.8	103.2
2008	105.2	39.9	242.1	74.9	35.9	97.9
2007	105.4	37	240.5	77.5	33.8	102.2
2006	103.4	34.3	236.6	79.9	32.1	105.7
2005	99.9	33.6	230.6	78.7	31.5	101
2004	95.7	33.7	215.9	81	30.8	97
2003	86.9	34.3	208.6	72.6	31.4	99.7
2002	73.6	27	191.3	65.1	28.2	95.3
2001	64.7	29	183.3	63.7	28.7	84.7
2000	64.2	25.4	184.3	66.5	29.3	85.1
1999	65.3	26.1	184.9	67	27	92.1
1998	65.8	26.2	173.8	64.8	23.3	94.7
1997	58.5	26.6	163.7	63.1	20.4	97.6
1996	55.4	25.7	157.8	59.4	17.6	94.3
1995	53	24.4	148	57.7	17.7	93.7
1994		22.8	139	58.9	17.1	79.9
1993		21.7	131.5	60	16.7	83.6
1992		20.5	118.1	59.5	14.7	81.5
1991		20.4	107	58.7	10.2	68.3
1990		21.3	98.5	57.5	8.2	68.8
1989		21.4	91.9	54.7	8.9	67.4
1988			84.2	47.3	10.1	68.2
1987			76.4	45	11.4	68.7
1986			70.4	41.4	12.2	76.2
1985			65.7	38.8	12.5	73.7
1984			66.3		13.4	70.9
1983			66.5			
1982			69.5			
1981			71.6			
1980			69.1			
1979			65.9			
1978			65.6			
1977			64.1			
1976			58.6			
1975			54.7			
1974			50			

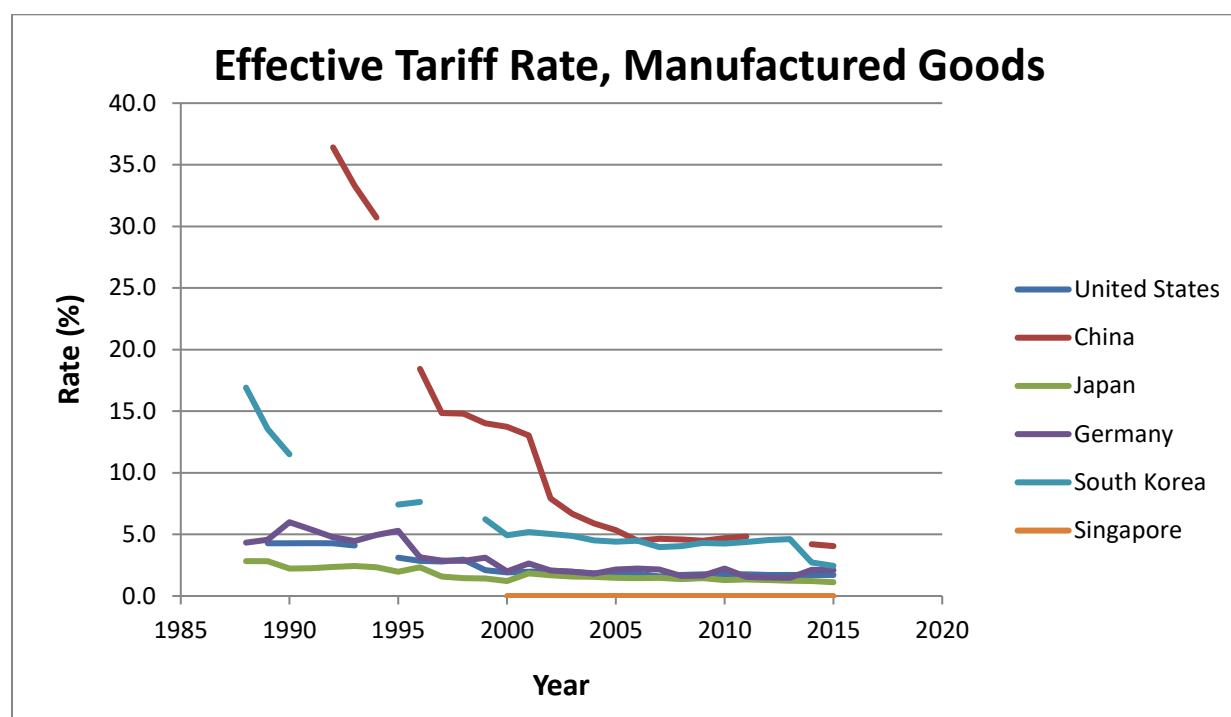




Source: World Development indicators, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2015	3.3	1.9	0.9	1.2	2.6	3.2
2014	3.5	1.9	0.9	1.2	2.6	3.2
2013	3.8	1.9	1.0	1.2	2.6	3.1
2012	4.2	1.8	1.0	1.3	2.6	3.2
2011	4.6	1.8	1.0	1.3	2.6	3.2
2010	4.7	1.9	1.0	1.4	2.6	3.4
2009	4.6	2.1	1.0	1.4	2.7	3.9
2008	4.2	1.9	0.9	1.3	2.6	3.9
2007	3.8	1.9	0.9	1.2	2.5	3.6
2006	3.8	2.0	0.9	1.3	2.5	3.9
2005	3.8	2.0	0.9	1.3	2.5	4.3
2004	3.8	2.1	0.9	1.3	2.3	4.4
2003	3.6	2.1	1.0	1.4	2.3	4.9
2002	3.2	2.2	1.0	1.4	2.3	4.9
2001	2.9	2.1	0.9	1.4	2.4	4.8
2000	2.9	1.9	0.9	1.4	2.5	4.5
1999	2.9	1.9	0.9	1.5	2.5	5.2
1998	3.0	1.7	0.9	1.5	2.8	5.2

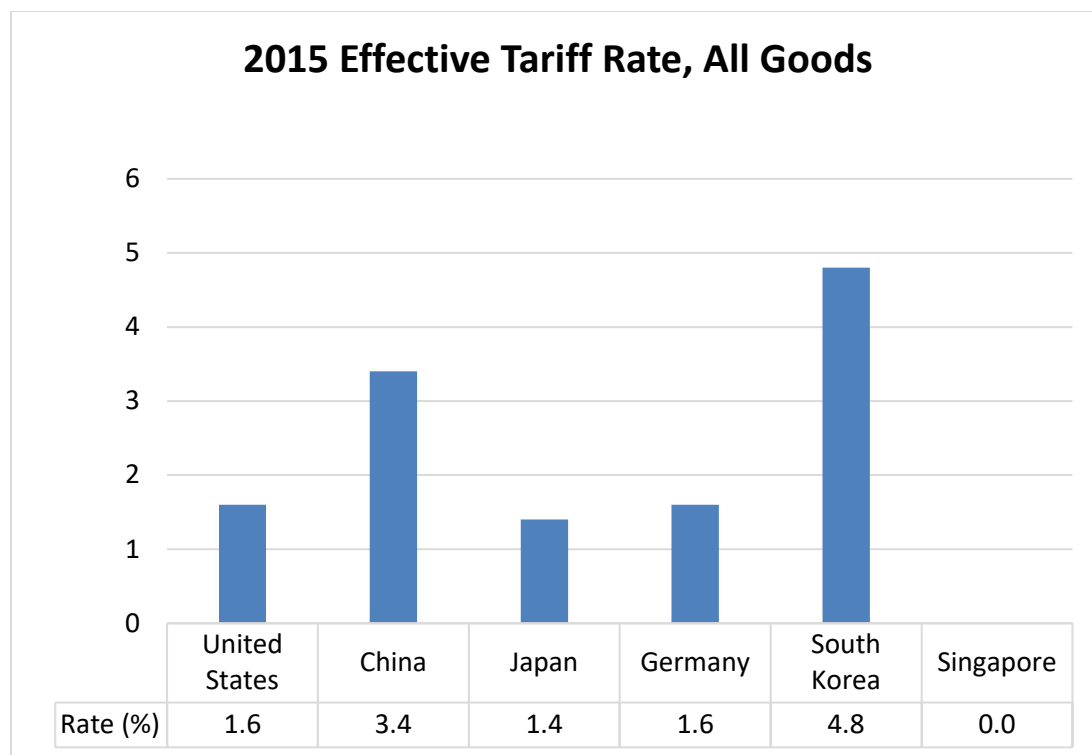
Year	United States	China	Japan	Germany	South Korea	Singapore
1997	3.2	1.7	0.9	1.5	2.6	4.5
1996	3.4	1.7	0.9	1.6	2.7	4.3
1995	3.6	1.7	0.9	1.6	2.9	4.2
1994	3.9	1.8	0.9	1.6	2.9	3.8
1993	4.3	2.0	0.9	1.8	3.2	4.1
1992	4.7	2.5	0.9	2.0	3.3	4.5
1991	4.5	2.4	0.9	2.1	3.3	4.4
1990	5.1	2.6	0.9	2.4	3.6	4.6
1989	5.4	2.5	0.9	2.4	3.8	4.5
1988	5.6		0.9	2.5	3.8	4.5



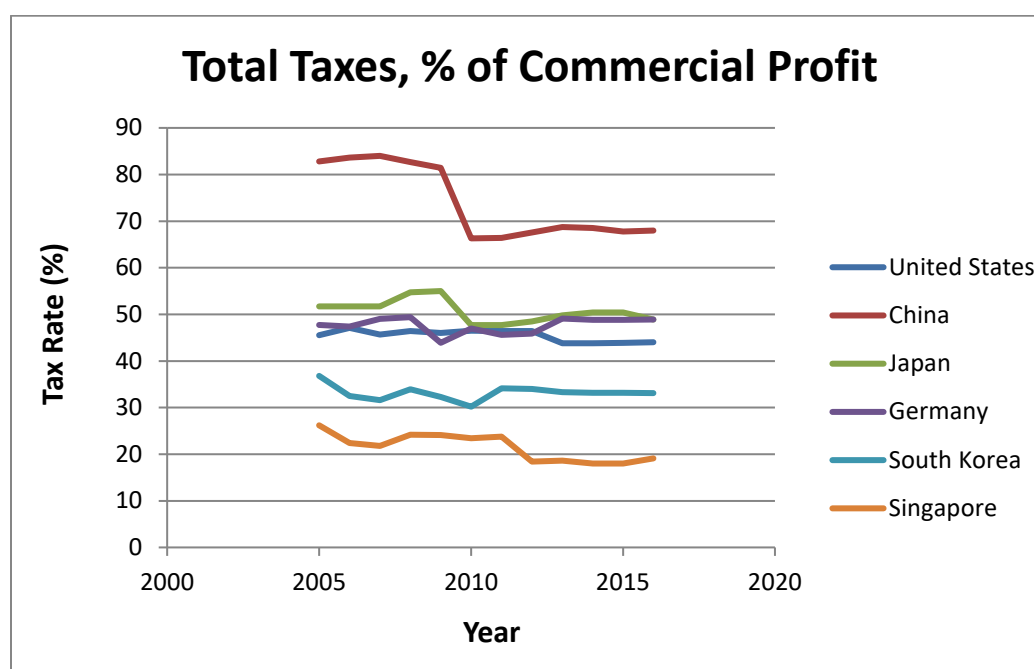
Source: World Development Indicators, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2015	1.7	4.1	1.1	2.1	2.5	0.0
2014	1.7	4.2	1.2	2.1	2.7	0.0
2013	1.7		1.2	1.5	4.6	0.0
2012	1.7		1.3	1.5	4.5	0.0
2011	1.8	4.8	1.4	1.5	4.4	0.0
2010	1.7	4.7	1.3	2.2	4.3	0.0
2009	1.8	4.5	1.5	1.7	4.3	0.0

Year	United States	China	Japan	Germany	South Korea	Singapore
2008	1.7	4.6	1.4	1.6	4.0	0.0
2007	1.6	4.7	1.5	2.2	4.0	0.0
2006	1.8	4.5	1.5	2.2	4.5	0.0
2005	1.8	5.3	1.5	2.2	4.4	0.0
2004	1.8	5.9	1.6	1.8	4.5	0.0
2003	2.0	6.7	1.6	2.0	4.9	0.0
2002	2.0	7.9	1.7	2.1	5.0	0.0
2001	2.0	13.0	1.8	2.6	5.2	0.0
2000	1.9	13.7	1.2	2.0	4.9	0.0
1999	2.1	14.0	1.4	3.1	6.2	
1998	3.0	14.8	1.5	2.9		
1997	2.8	14.9	1.6	2.9		
1996	2.9	18.4	2.3	3.1	7.6	
1995	3.1		2.0	5.3	7.4	0.0
1994		30.7	2.3	5.0		
1993	4.1	33.3	2.4	4.5		
1992	4.3	36.4	2.4	4.8	9.9	
1991	4.3		2.3	5.4		
1990	4.3		2.2	6.0	11.5	
1989	4.3		2.8	4.6	13.5	0.6
1988			2.8	4.3	16.9	



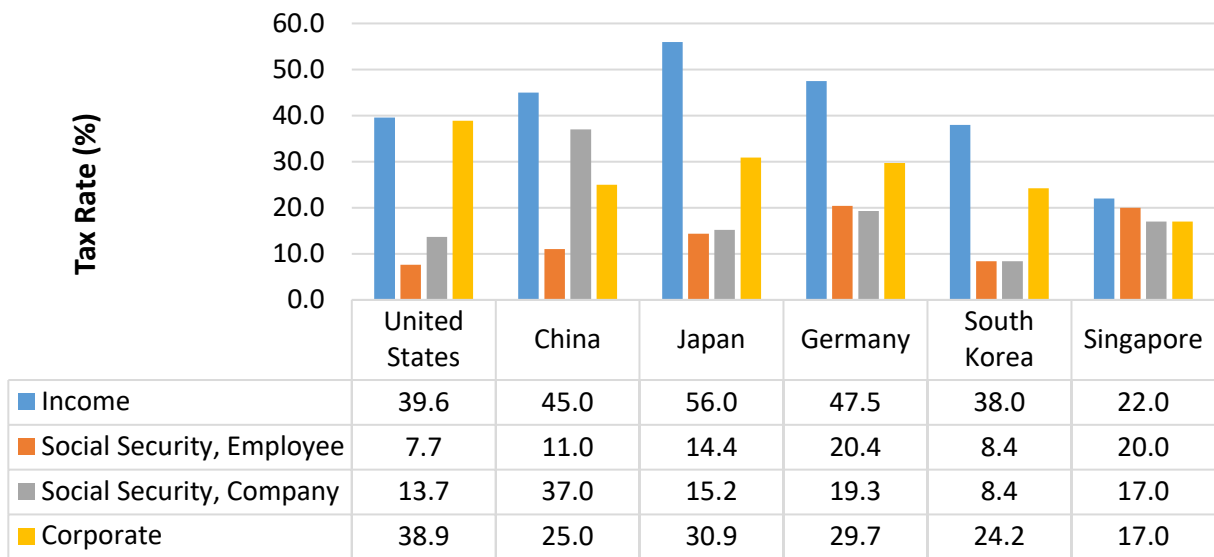
Source: World Development Indicators, World Bank



Source: World Bank, Doing Business Project

Year	United States	China	Japan	Germany	South Korea	Singapore
2016	44	68	48.9	48.9	33.1	19.1
2015	43.9	67.8	50.4	48.8	33.2	18
2014	43.8	68.5	50.4	48.8	33.2	18
2013	43.8	68.7	49.8	49.1	33.3	18.6
2012	46.4	67.6	48.5	45.9	34	18.4
2011	46.4	66.4	47.7	45.6	34.1	23.8
2010	46.5	66.3	47.7	47	30.2	23.4
2009	46	81.4	55	43.9	32.3	24.1
2008	46.4	82.7	54.7	49.4	33.9	24.2
2007	45.7	84	51.7	49	31.6	21.8
2006	47.1	83.6	51.7	47.4	32.5	22.4
2005	45.5	82.8	51.7	47.7	36.8	26.2

Income, Corporate, and Social Security Tax Rates, 2016



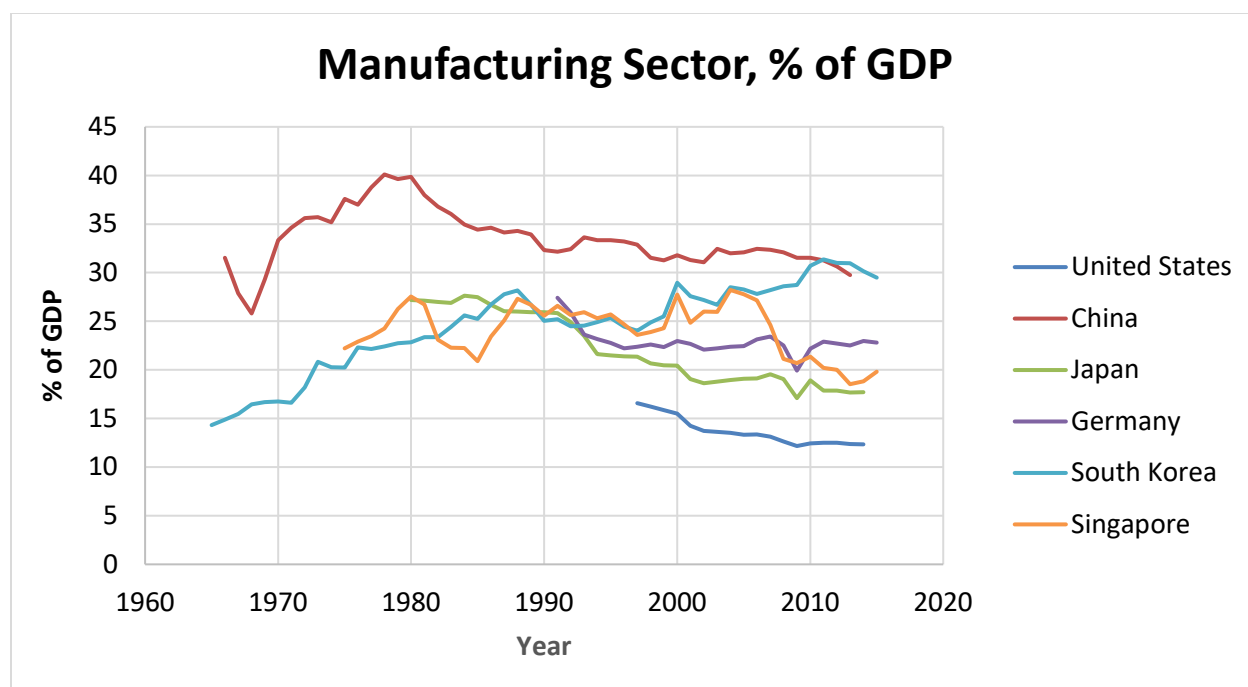
Source: Trading Economics

Appendix F: Industrial Data

Manufacturing Labor Costs (2015)

Item	Value	Units
Total Labor Costs	1,025,232	Millions of 2015 \$
Employees	12,655	Thousands
Costs per Employee	81,014	2015 \$
Producer Price Index, Manufacturing	188.5	2015
Producer Price Index, Manufacturing	174.7	2010
Cost per Employee	75,083	2010 \$

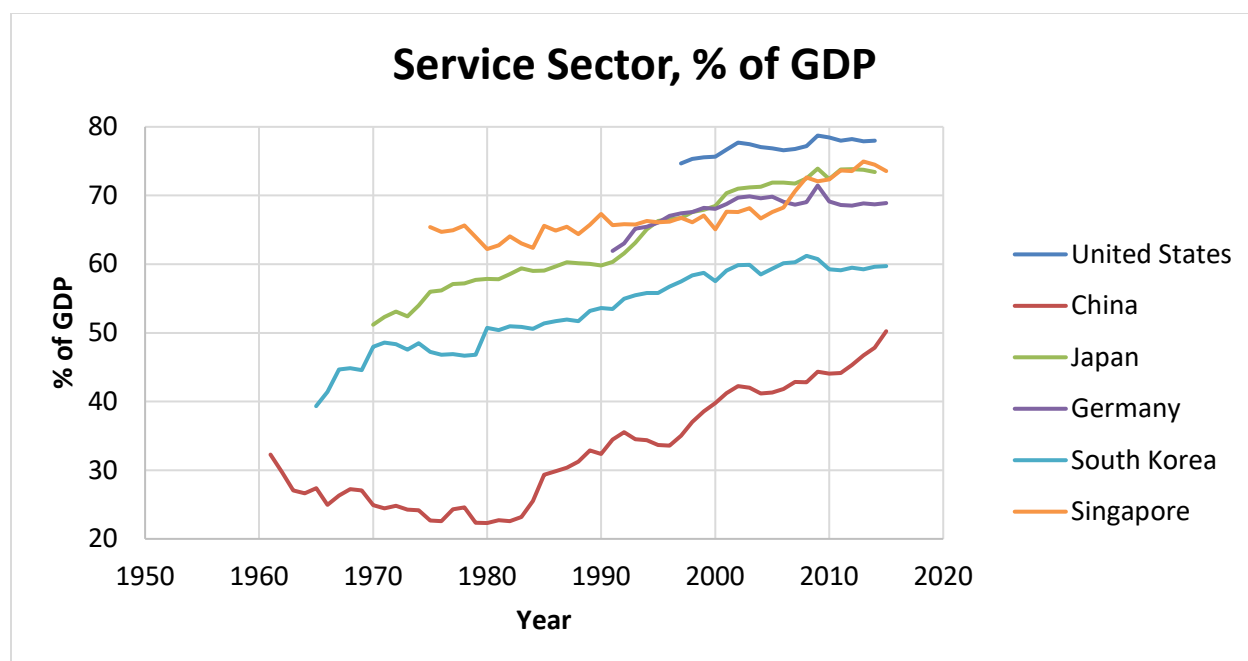
**Sources: The Conference Board, International Labor Comparisons;
Bureau of Labor Statistics for PPI**



Source: World Development Indicators, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2015				23	29	20
2014	12		18	23	30	19
2013	12	30	18	23	31	19
2012	13	31	18	23	31	20
2011	13	31	18	23	31	20
2010	12	32	19	22	31	21
2009	12	32	17	20	29	21
2008	13	32	19	23	29	21
2007	13	32	20	23	28	25
2006	13	32	19	23	28	27
2005	13	32	19	22	28	28
2004	14	32	19	22	29	28
2003	14	32	19	22	27	26
2002	14	31	19	22	27	26
2001	14	31	19	23	28	25
2000	16	32	20	23	29	28
1999	16	31	20	22	26	24
1998	16	32	21	23	25	24
1997	17	33	21	22	24	24
1996		33	21	22	24	25

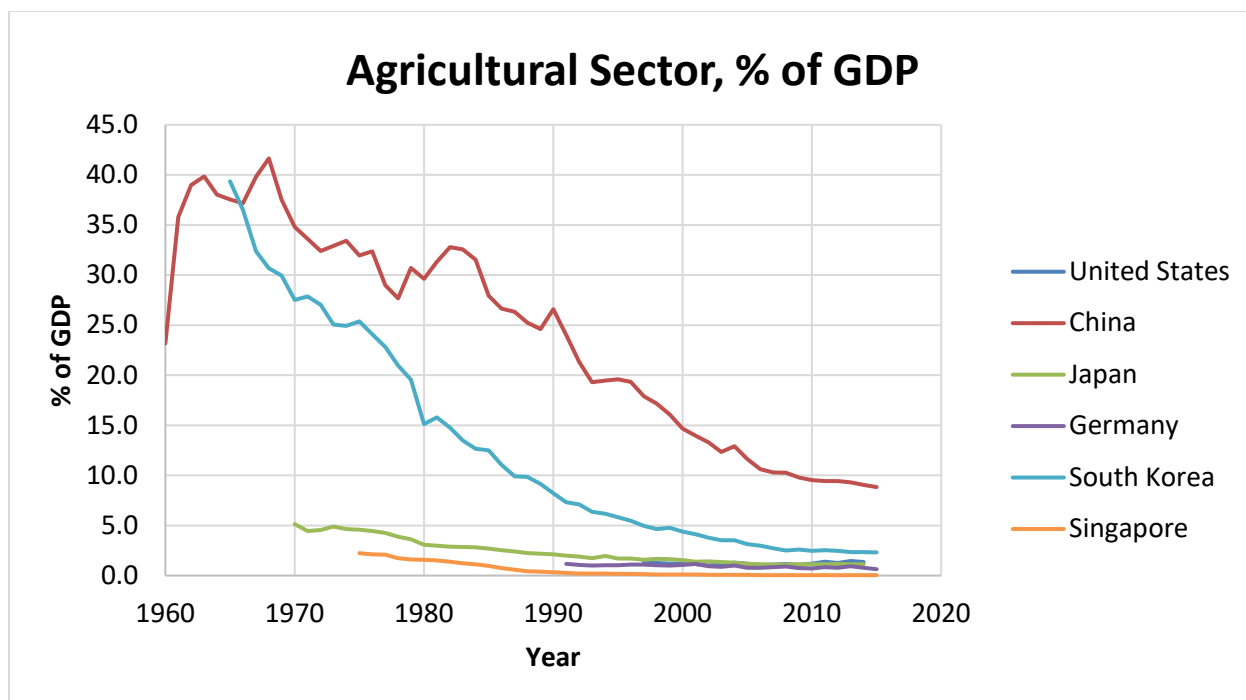
Year	United States	China	Japan	Germany	South Korea	Singapore
1995		33	22	23	25	26
1994		33	22	23	25	25
1993		34	24	24	25	26
1992		32	25	26	24	26
1991		32	26	27	25	27
1990		32	26		25	26
1989		34	26		27	27
1988		34	26		28	27
1987		34	26		28	25
1986		35	27		27	23
1985		34	27		25	21
1984		35	28		26	22
1983		36	27		24	22
1982		37	27		23	23
1981		38	27		23	27
1980		40	27		23	28
1979		40			23	26
1978		40			22	24
1977		39			22	23
1976		37			22	23
1975		38			20	22
1974		35			20	
1973		36			21	
1972		36			18	
1971		35			17	
1970		33			17	
1969		29			17	
1968		26			16	
1967		28			15	
1966		32			15	
1965					14	



Source: World Development Indicators, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2015		50		69	60	74
2014	78	48	73	69	60	75
2013	78	47	74	69	59	75
2012	78	45	74	69	59	74
2011	78	44	74	69	59	74
2010	78	44	72	69	59	72
2009	79	44	74	71	61	72
2008	77	43	73	69	61	73
2007	77	43	72	69	60	71
2006	77	42	72	69	60	68
2005	77	41	72	70	59	68
2004	77	41	71	70	59	67
2003	77	42	71	70	60	68
2002	78	42	71	70	60	68
2001	77	41	70	69	59	68
2000	76	40	68	68	58	65
1999	76	39	68	68	59	67
1998	75	37	68	68	58	66
1997	75	35	67	67	57	67
1996		34	67	67	57	66
1995		34	66	66	56	66
1994		34	65	65	56	66

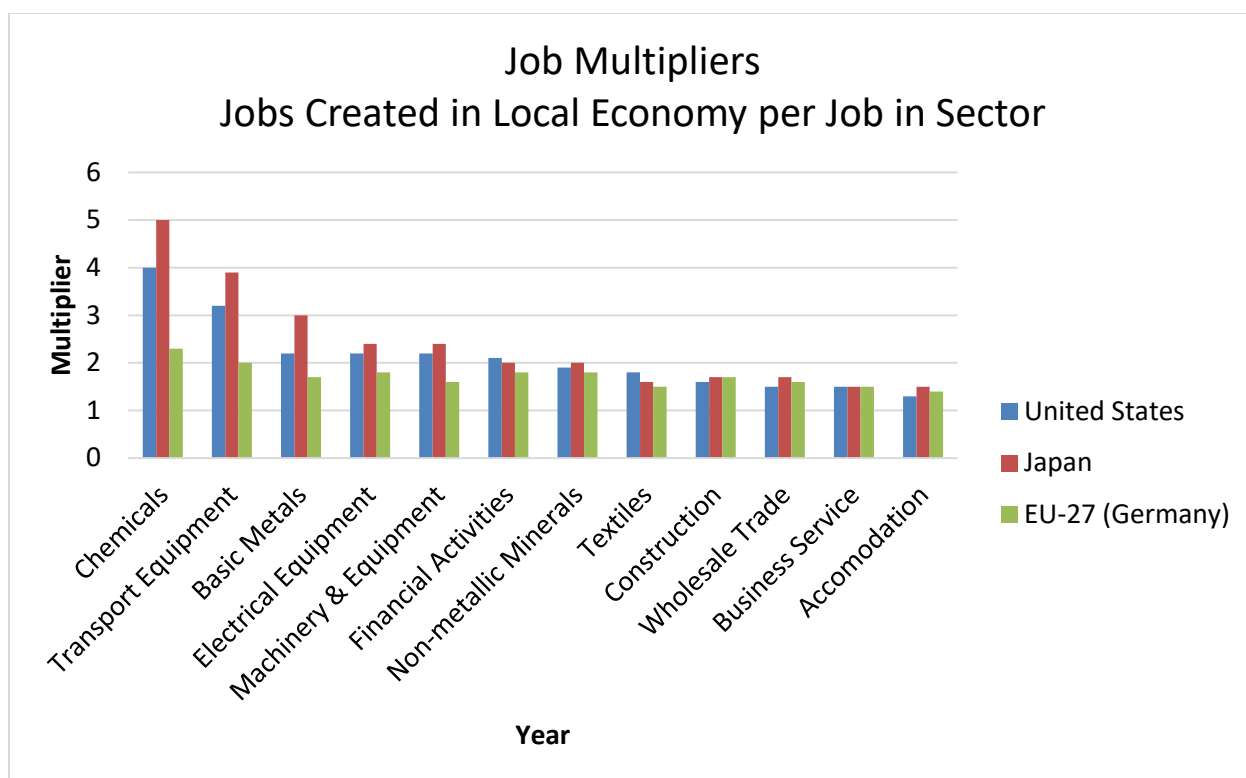
Year	United States	China	Japan	Germany	South Korea	Singapore
1993		35	63	65	55	66
1992		36	62	63	55	66
1991		34	60	62	53	66
1990		32	60		54	67
1989		33	60		53	66
1988		31	60		52	64
1987		30	60		52	65
1986		30	60		52	65
1985		29	59		51	66
1984		26	59		51	62
1983		23	59		51	63
1982		23	59		51	64
1981		23	58		50	63
1980		22	58		51	62
1979		22	58		47	64
1978		25	57		47	66
1977		24	57		47	65
1976		23	56		47	65
1975		23	56		47	65
1974		24	54		48	
1973		24	52		48	
1972		25	53		48	
1971		24	52		49	
1970		25	51		48	
1969		27			45	
1968		27			45	
1967		26			45	
1966		25			41	
1965		27			39	
1964		27				
1963		27				
1962		30				
1961		32				



Source: World Development Indicators, World Bank

Year	United States	China	Japan	Germany	South Korea	Singapore
2015		8.8		0.6	2.3	0.0
2014	1.3	9.1	1.1	0.8	2.3	0.0
2013	1.5	9.3	1.1	0.9	2.3	0.0
2012	1.2	9.4	1.2	0.8	2.5	0.0
2011	1.4	9.4	1.1	0.8	2.5	0.0
2010	1.2	9.5	1.1	0.7	2.5	0.0
2009	1.1	9.8	1.1	0.7	2.6	0.0
2008	1.2	10.3	1.1	0.9	2.5	0.0
2007	1.1	10.3	1.1	0.8	2.7	0.0
2006	1.1	10.6	1.1	0.8	3.0	0.1
2005	1.2	11.6	1.2	0.8	3.1	0.1
2004	1.3	12.9	1.3	1.0	3.5	0.1
2003	1.2	12.3	1.3	0.9	3.5	0.1
2002	1.0	13.3	1.4	0.9	3.8	0.1
2001	1.2	14.0	1.4	1.2	4.1	0.1
2000	1.2	14.7	1.5	1.1	4.4	0.1
1999	1.2	16.1	1.6	1.0	4.8	0.1
1998	1.3	17.2	1.7	1.0	4.6	0.1
1997	1.4	17.9	1.6	1.1	5.0	0.1
1996		19.3	1.7	1.1	5.5	0.2
1995		19.6	1.7	1.0	5.8	0.2

Year	United States	China	Japan	Germany	South Korea	Singapore
1994		19.5	1.9	1.0	6.2	0.2
1993		19.3	1.7	1.0	6.4	0.2
1992		21.3	1.9	1.1	7.1	0.2
1991		24.0	2.0	1.2	7.3	0.3
1990		26.6	2.1		8.2	0.3
1989		24.6	2.2		9.1	0.4
1988		25.2	2.2		9.9	0.4
1987		26.3	2.4		9.9	0.6
1986		26.6	2.5		11.1	0.7
1985		27.9	2.7		12.5	1.0
1984		31.5	2.8		12.7	1.1
1983		32.6	2.8		13.5	1.2
1982		32.8	2.9		14.8	1.4
1981		31.3	3.0		15.8	1.5
1980		29.6	3.1		15.1	1.6
1979		30.7	3.6		19.5	1.6
1978		27.7	3.9		21.0	1.7
1977		29.0	4.2		22.8	2.1
1976		32.4	4.4		24.1	2.1
1975		32.0	4.6		25.4	2.2
1974		33.4	4.7		24.9	
1973		32.9	4.9		25.1	
1972		32.4	4.6		27.0	
1971		33.6	4.4		27.9	
1970		34.8	5.1		27.5	
1969		37.5			30.0	
1968		41.6			30.7	
1967		39.8			32.4	
1966		37.2			36.5	
1965		37.5			39.4	
1964		38.0				
1963		39.9				
1962		39.0				
1961		35.8				
1960		23.2				



Source: Study on 'Monitoring of Sectoral Employment' by Robert Stehrer and Terry Ward, 2012, The Vienna Institute for International Economic Studies.

Industry	United States	Japan	EU-27 (Germany)
Chemicals	4	5	2.3
Transport Equipment	3.2	3.9	2
Basic Metals	2.2	3	1.7
Electrical Equipment	2.2	2.4	1.8
Machinery & Equipment	2.2	2.4	1.6
Financial Activities	2.1	2	1.8
Non-metallic Minerals	1.9	2	1.8
Textiles	1.8	1.6	1.5
Construction	1.6	1.7	1.7
Wholesale Trade	1.5	1.7	1.6
Business Service	1.5	1.5	1.5
Accommodation	1.3	1.5	1.4

Net Capital Expenditures / Sales, Top 10 by Region

United States	
<i>Industry Name</i>	<i>Net Cap Ex/Sales</i>
Green & Renewable Energy	243.22%
Drugs (Biotechnology)	32.65%
Tobacco	30.04%
Utility (Water)	24.13%
Oil/Gas Distribution	23.05%
Semiconductor Equip	22.98%
Healthcare Products	22.17%
Precious Metals	21.76%
Real Estate (General/Diversified)	21.19%
Drugs (Pharmaceutical)	20.21%

Emerging Markets	
<i>Industry Name</i>	<i>Net Cap Ex/Sales</i>
R.E.I.T.	25.99%
Green & Renewable Energy	24.19%
Information Services	23.41%
Education	22.35%
Oil/Gas Distribution	20.94%
Semiconductor	19.04%
Power	18.81%
Precious Metals	17.89%
Transportation (Railroads)	16.30%
Utility (Water)	16.28%

Japan	
<i>Industry Name</i>	<i>Net Cap Ex/Sales</i>
R.E.I.T.	196.05%
Insurance (General)	72.10%
Oil/Gas (Production and Exploration)	37.28%
Real Estate (Operations & Services)	32.95%
Oil/Gas Distribution	21.97%
Cable TV	20.53%
Drugs (Biotechnology)	17.91%
Retail (Online)	16.40%
Precious Metals	14.31%
Financial Svcs. (Non-bank & Insurance)	13.28%

Europe	
<i>Industry Name</i>	<i>Net Cap Ex/Sales</i>
Cable TV	56.47%
Green & Renewable Energy	44.76%
Drugs (Pharmaceutical)	31.16%
Real Estate (Operations & Services)	30.35%
Healthcare Products	27.62%
Oil/Gas (Production and Exploration)	22.54%
R.E.I.T.	21.40%
Education	20.97%
Software (System & Application)	18.61%
Oil/Gas Distribution	17.35%

Source: Professor Aswath Damodaran,
Damodaran Online, Stern School of Business, New York University

Global Company Rankings by Revenue

1987 Ranking	Company	Country	Billion 2015 US \$
1	General Motors	USA	102.8
2	Exxon Mobil	USA	69.9
3	Ford Motor	USA	62.7
4	Intl. Business Machines	USA	51.3
5	Toyota Motor Corp	Japan	46.2
6	Mobil	USA	44.9
7	General Electric	USA	35.2
8	AT&T	USA	34.1
9	Texaco	USA	31.6
10	DuPont	USA	27.1
11	ChevronTexaco	USA	24.4
12	Chrysler	USA	22.5
13	Altria Group	USA	20.7
14	Amoco	USA	18.3
15	Nabisco Group Holdings	USA	17.0
16	Shell Oil	USA	16.8
17	Boeing	USA	16.3
18	United Technologies	USA	15.7
19	Procter & Gamble	USA	15.4
20	Occidental Petroleum	USA	15.3
21	Atlantic Richfield	USA	14.6
22	Tenneco Automotive	USA	14.6
23	Marathon Oil	USA	14.0
24	McDonnell Douglas	USA	12.7
25	Rockwell Automation	USA	12.3
26	Honda Motor Company Ltd	Japan	12.3
27	Honeywell Intl.	USA	11.8
28	Mazda Motor Corp	Japan	11.7
29	Eastman Kodak	USA	11.6
30	Dow Chemical	USA	11.1
31	CBS	USA	10.7
32	Goodyear Tire & Rubber	USA	10.3
33	Lockheed Martin	USA	10.3
34	ConocoPhillips	USA	9.8
35	Xerox	USA	9.4
36	Sunoco	USA	9.4
37	PepsiCo	USA	9.3
38	BP America	USA	9.2
39	General Dynamics	USA	9.2

1987 Ranking	Company	Country	Billion 2015 US \$
40	Showa Shell Sekiyu kk	Japan	9.0
41	Kraft	USA	8.7
42	Coca-Cola	USA	8.7
43	3M	USA	8.6
44	Sanyo Electric Co Ltd	Japan	8.3
45	Sara Lee	USA	7.9
46	Assicurazioni Generali Spa	Italy	7.9
47	Kajima Corp	Japan	7.9
48	ITT Industries	USA	7.9
49	Union Carbide	USA	7.8
50	Anheuser-Busch	USA	7.7

2015 Ranking	Company	Country	Billion 2015 US \$
1	Walmart	USA	482
2	State Grid	China	330
3	China National Petroleum	China	299
4	Sinopec Group	China	294
5	Royal Dutch Shell	Netherlands	272
6	Exxon Mobil	USA	246
7	Volkswagen	Germany	237
8	Toyota Motor	Japan	237
9	Apple	USA	234
10	BP	UK	226
11	Berkshire Hathaway	USA	211
12	McKesson	USA	192
13	Samsung Electronics	S. Korea	177
14	Glencore	Switzerland	170
15	Industrial & Commercial Bank of China	China	167
16	Daimler	Germany	166
17	United Health Group	USA	157
18	CVS Health	USA	153
19	EXOR Group	Italy	153
20	General Motors	USA	152
21	Ford Motor	USA	150
22	China Construction Bank	China	148
23	AT&T	USA	147
24	Total	France	143
25	Hon Hai Precision Industry	Taiwan	141
26	General Electric	USA	140
27	China State Construction Engineering	China	140

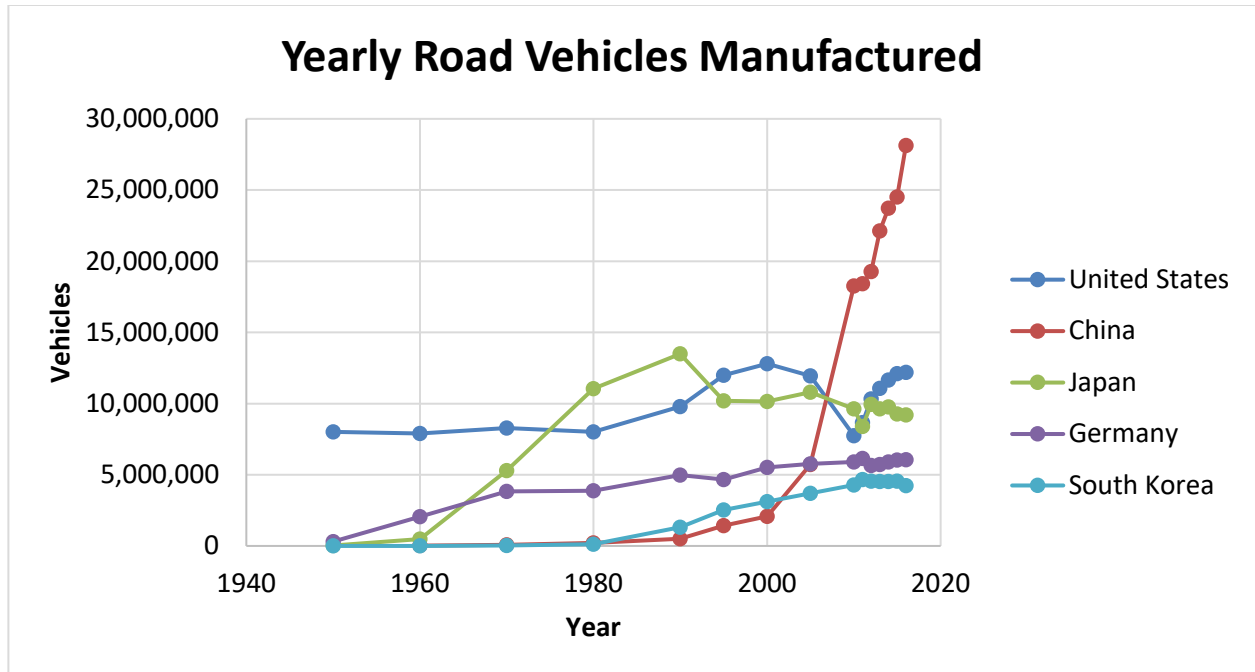
2015 Ranking	Company	Country	Billion 2015 US \$
28	AmerisourceBergen	USA	136
29	Agricultural Bank of China	China	133
30	Verizon	USA	132
31	Chevron	USA	131
32	E.ON	Germany	129
33	AXA	France	129
34	Allianz	Germany	123
35	Bank of China	China	122
36	Honda Motor	Japan	122
37	Japan Post Holdings	Japan	119
38	Costco	USA	116
39	BNP Paribas	France	112
40	Fannie Mae	USA	110
41	Ping An Insurance	China	110
42	Kroger	USA	110
43	Societe Generale	France	108
44	Amazon.com	USA	107
45	China Mobile Communications	China	107
46	SAIC Motor	China	107
47	Walgreens Boots Alliance	USA	103
48	HP	USA	103
49	Assicurazioni Generali	Italy	103
50	Cardinal Health	USA	103

Sources:

2015 Global 500 taken from Fortune.com.

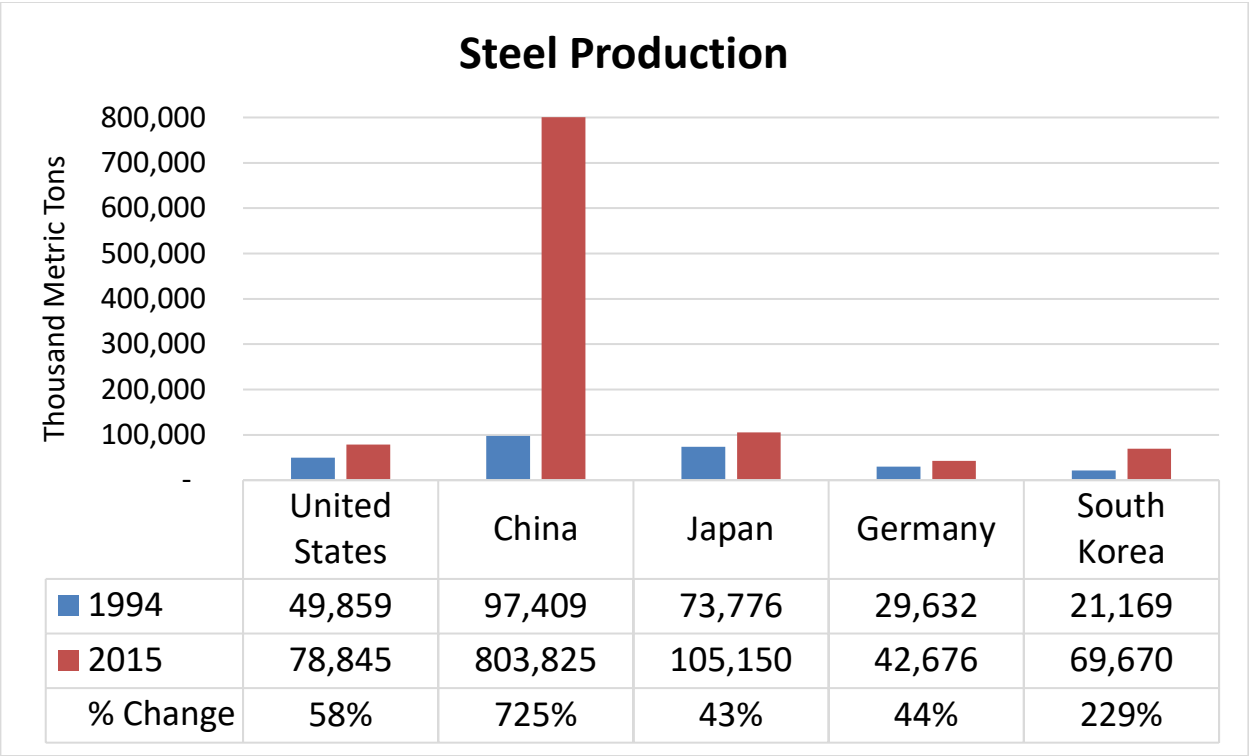
1987 Global 500 combines USA 500 from Fortune.com and International 500 from Compustat.

1987 foreign currencies are converted with exchange rates from the Pacific Exchange Rate Service, Sauder School of Business



Source: International Organization of Motor Vehicle Manufacturers

Year	United States	China	Japan	Germany	South Korea
2016	12,198,137	28,118,794	9,204,590	6,062,562	4,228,509
2015	12,100,095	24,503,326	9,278,238	6,033,164	4,555,957
2014	11,660,699	23,722,890	9,774,558	5,907,548	4,524,932
2013	11,066,432	22,116,825	9,630,181	5,718,222	4,521,429
2012	10,335,765	19,271,808	9,943,077	5,649,260	4,561,766
2011	8,661,535	18,418,876	8,398,630	6,146,948	4,657,094
2010	7,743,093	18,264,761	9,628,920	5,905,985	4,271,741
2005	11,946,653	5,717,619	10,799,659	5,757,710	3,699,350
2000	12,799,857	2,069,069	10,140,796	5,526,615	3,114,998
1995	11,985,457	1,434,772	10,195,536	4,667,364	2,526,400
1990	9,782,997	509,242	13,486,796	4,976,552	1,321,630
1980	8,009,841	222,288	11,042,884	3,878,553	123,135
1970	8,283,949	87,166	5,289,157	3,842,247	28,819
1960	7,905,119	22,574	481,551	2,056,149	0
1950	8,005,859		31,597	306,064	0

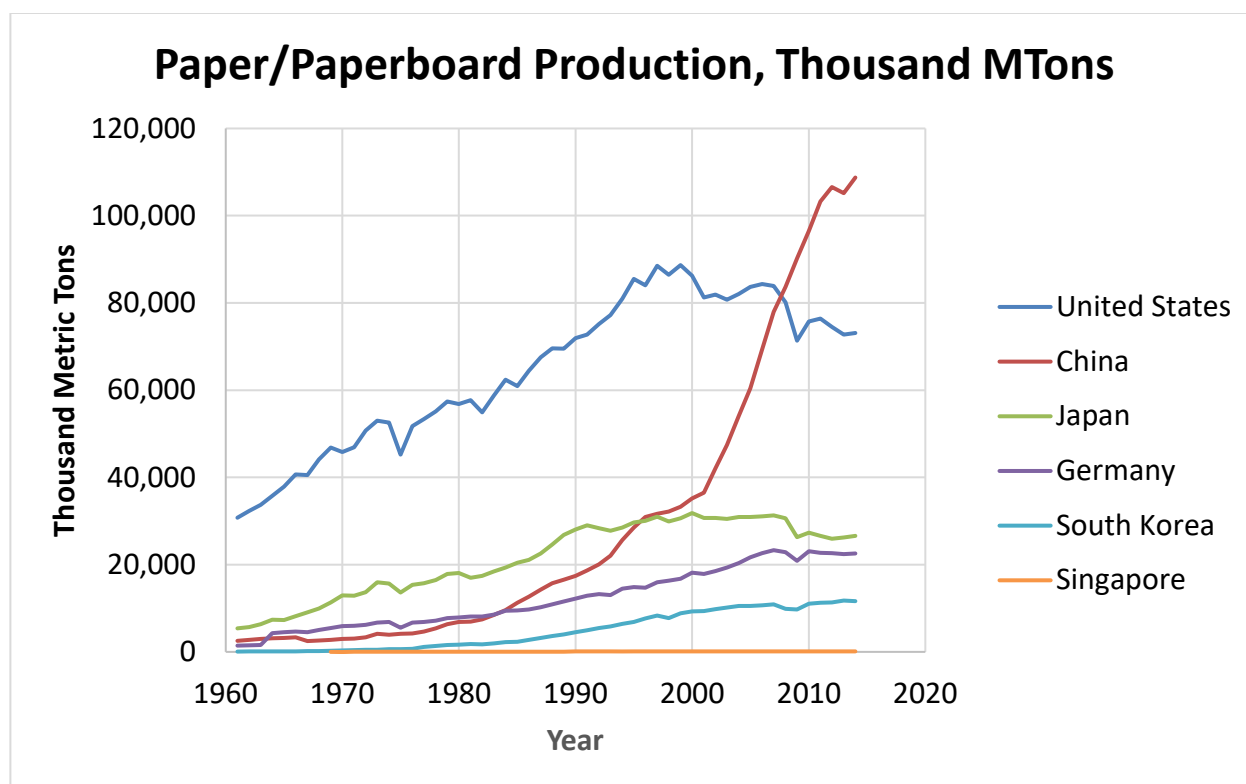


Source: World Steel Association

Aluminum Production, Metric Tons

Year	United States	China	Japan	Germany
2015	1,600,000	32,000,000		
2014	1,710,000	24,400,000		500,000
2012	2,070,000	20,300,000	50,000	410,000
1994	3,300,000	1,450,000	17,000	505,000
% Change 1994 – 2012	-37%	1300%	194%	-19%

Source: United States Geological Series



Source: Food and Agricultural Organization of the United Nations, Statistics Division

Year	United States	China	Japan	Germany	South Korea	Singapore
2014	73,093	108,750	26,626	22,540	11,622	87
2013	72,744	105,150	26,238	22,401	11,767	87
2012	74,492	106,569	25,957	22,603	11,332	87
2011	76,431	103,226	26,609	22,706	11,256	87
2010	75,773	96,545	27,364	23,072	11,022	87
2009	71,355	90,192	26,268	20,870	9,726	87
2008	80,178	83,685	30,628	22,828	9,890	87
2007	83,916	77,965	31,268	23,317	10,932	87
2006	84,317	69,394	31,097	22,656	10,703	87
2005	83,697	60,405	30,953	21,679	10,549	87
2004	82,084	54,072	30,891	20,391	10,511	87
2003	80,712	47,419	30,457	19,310	10,148	87
2002	81,879	42,061	30,686	18,526	9,812	87
2001	81,249	36,531	30,717	17,879	9,332	87
2000	86,252	35,184	31,828	18,182	9,308	87
1999	88,670	33,265	30,631	16,742	8,875	87
1998	86,469	32,203	29,888	16,311	7,750	87
1997	88,511	31,663	31,014	15,930	8,334	87
1996	84,046	30,913	30,014	14,733	7,681	87
1995	85,526	28,517	29,664	14,827	6,878	87

Year	United States	China	Japan	Germany	South Korea	Singapore
1994	80,945	25,627	28,527	14,457	6,435	97
1993	77,250	22,077	27,764	13,034	5,804	96
1992	75,160	20,049	28,324	13,214	5,504	85
1991	72,724	18,640	29,053	12,904	4,922	85
1990	71,965	17,409	28,088	12,194	4,524	80
1989	69,514	16,527	26,809	11,579	4,029	10
1988	69,587	15,740	24,625	10,902	3,659	10
1987	67,532	14,271	22,537	10,255	3,163	10
1986	64,444	12,641	21,062	9,713	2,773	10
1985	60,959	11,237	20,469	9,478	2,312	10
1984	62,366	9,550	19,345	9,443	2,207	10
1983	58,804	8,446	18,441	8,560	1,982	10
1982	54,899	7,463	17,453	8,075	1,737	50
1981	57,667	6,948	16,980	8,119	1,783	50
1980	56,839	6,884	18,089	7,868	1,680	43
1979	57,410	6,321	17,861	7,727	1,594	6
1978	55,154	5,370	16,499	7,129	1,365	6
1977	53,347	4,661	15,702	6,874	1,124	6
1976	51,757	4,213	15,394	6,703	698	6
1975	45,248	4,128	13,600	5,564	662	6
1974	52,540	3,926	15,645	6,873	618	6
1973	52,971	4,116	15,975	6,734	512	6
1972	50,757	3,371	13,648	6,226	486	5
1971	46,954	3,060	12,907	5,978	433	5
1970	45,805	2,961	12,973	5,892	330	2
1969	46,814	2,788	11,310	5,474	241	2
1968	44,117	2,635	9,958	5,025	198	
1967	40,505	2,478	9,044	4,510	155	
1966	40,705	3,339	8,195	4,637	139	
1965	37,867	3,191	7,299	4,534	120	
1964	35,778	3,087	7,366	4,321	108	
1963	33,687	3,000	6,380	1,597	98	
1962	32,293	2,743	5,672	1,519	90	
1960	30,758	2,531	5,393	1,438	67	